

Special Feature This Issue

"Small Boat Designers, An Endangered Species!",
"Small Boat Design", "Model Boat Dreaming",

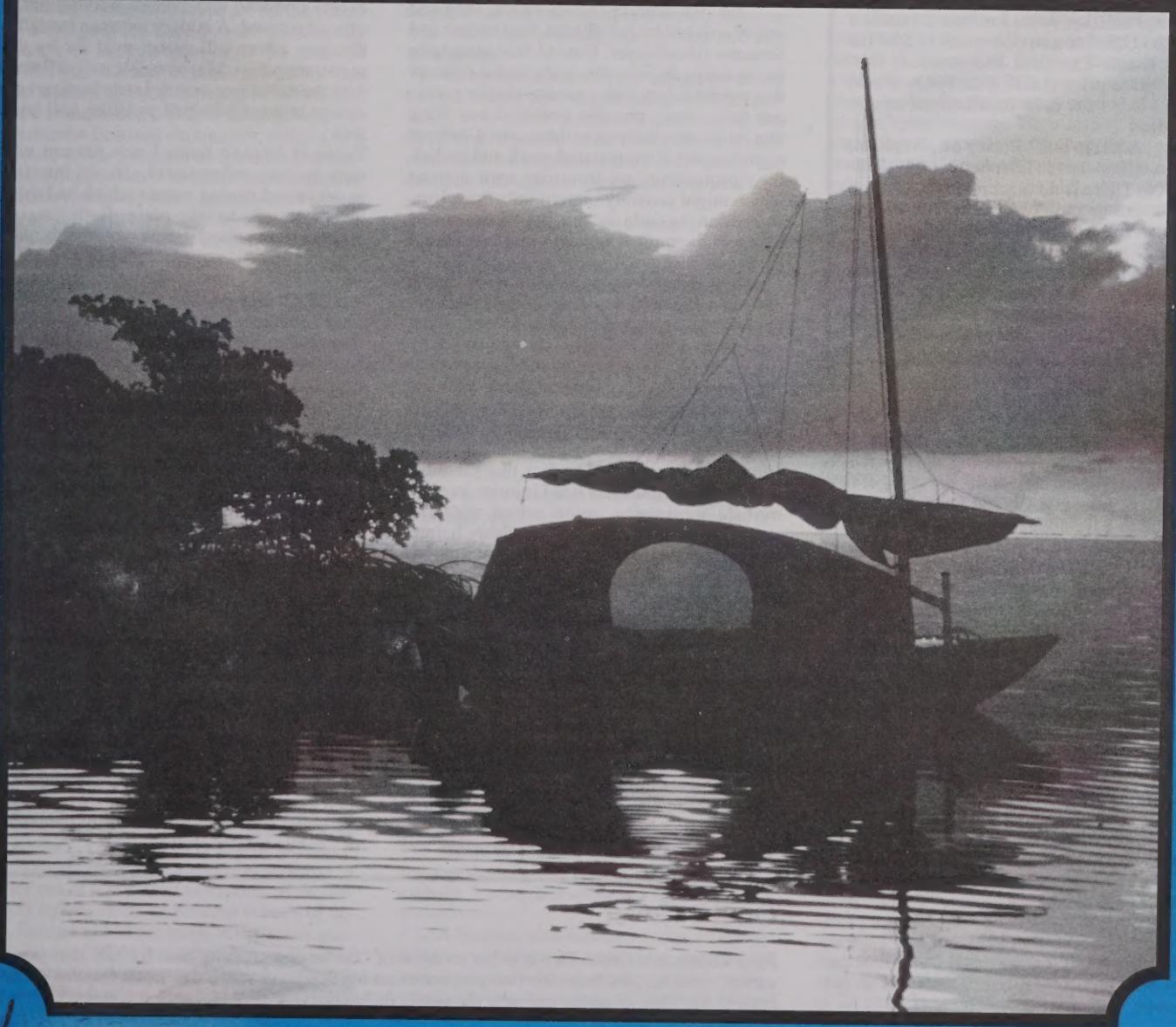
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messing about in **BOATS**

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Looking Ahead...

Lotsa stuff that was dropped from this issue to make room for the big alarm piece on endangered small boat designers will get first dibs next issue and I'll add on some more to be sure to have enough.

Foster Nostrand tells of his shipwreck in "Jack on the Beach"; Jim Betts reveals a by-gone adventure in "Boatbuilder Not Guilty in Nudity Case"; Tom McGrath returns with "Another Tale Tossed Over the Wall"; and Jim Thayer begins a four part series on adventures afloat overseas in "Big Boat Expose".

Anne and Ryerson Clark reveal what happened to them in "Boatbuilding for Sickies"; Dan Drath tells us about "Joe's Pretty Good Boats"; Myron Young tells us about his "Lovely Liz"; and I'll explain how Reuben Smith operates his "Tumblehome Boatworks Rolling Boatshop".

Robb White continues with Part 2 of his series on "Small Boat Design"; and Phil Bolger & Friends offer "Topaz Update". Brad Lyttle details a couple of useful "Boat Dollies"; Eric Russell explains his new product in "Bye Bye Barnacles"; Chris Luneski offers his "First Bender"; and Don Elliot carries on with his "Capsize, a Study of an Adventure".

Commentary...

Bob Hicks, Editor



In a bit of a departure from our tried and true format, I heeded the calls from people like Phil Bolger and Dick Newick to alert you all to another turn of the vise squeezing our personal freedom in the interests of "public safety", one that would affect all of us who enjoy small boating. Starting on the facing page are five pages of solid type on this topic. I urge you to read them all to learn the true dimensions of this apparent effort by vested interests in professional naval architecture to save us all from the dangers to public safety perceived by these people because small boat designers do not have to be licensed by an "authority".

I'll not discuss the specifics, they are amply covered by Jud Pitman, Phil Bolger and Susanna Altenburger. Instead this stimulates me to again deplore this truly awful concept that public safety today means saving everyone from every possible potential bad thing that might ever happen to them, often without regard to any demonstrated need, and including "protecting" us from our own actions which might possibly imperil only ourselves. A hidden agenda is the proliferation of bureaucratic empires and their employment of additional minions.

I learned many years ago in my motorcycling days that I should be compelled (not simply advised) to wear a safety helmet when riding, for if I should be seriously injured I could become a burden on society in the form of costs for medical and possible long term care, and also would cease to be a productive member of society. As motorcyclists are politically insignificant, compulsory helmet laws came into being in most states. The fact that far more people suffered serious head injuries in automobile accidents, even when wearing seatbelts, did not result in compulsory helmet wearing for automobile drivers. Political poison. We still kill over 40,000 a year on the highways in automobiles.

But, back to our tiny area of interest, small boats. Have you heard that a "new study" has shown what sort of boating results in the most "deaths per mile travelled"? Guess what boats? Not cigarette boats, outboard speedboats or personal watercraft. Nope. Kayaks and canoes. Obviously, for many, many people paddle canoes and kayaks, but over very short distances. It's deaths per mile travelled, not deaths total that has been conceived as a statistical basis for extending bureaucratic control over our lives. Cut way back on miles travelled and

smaller numbers of fatalities suddenly loom larger statistically (damn lies!). This neatly ends the subject of total deaths by types of boats in use so that bureaucratic control can be justified to be extended beyond the current motorized boats.

One proposed way to deal with this newly discovered public safety issue is to "register" all canoes and kayaks. How this will reduce the deaths per mile travelled is not clear, perhaps you get a paddling safety pamphlet when you get your registration? As a paddler, even with long experience, you might even have to take an exam administered by a bureaucrat with no experience who understands nothing but the official manual. A budget increase to staff up this new effort will ensue, paid for by your registration fees. Management will still reside with the motorboat oriented state boating agencies so understanding of paddling will be absent.

Twice in bygone times I was present when state boating enforcement officers interfered in organized rowing events which had the required permits to take place. Both times the officers were onboard large motorboats, packing guns (yep). In one instance on the Boston waterfront they tried to order the crews in several 38' Bantry Bay gigs about to depart for a fund raising harbor row to put on pfd's, even though the law requires only that pfd's must be onboard for all. They were persuaded to back off by the awareness of the crew spokesman of this detail. In the other instance at a rowing race on a windy, rough water day, an attempt was made to require the event to be called off because the enforcement officer felt threatened by the sea conditions, even on his big powerboat. Again, wiser heads persuaded otherwise and the race went off without incident.

What's missing from this public safety vendetta against innocuous recreational activities is good judgement. To the public safety mavens and their bureaucratic supporters, good judgement is no substitute for structured rules and regulations applied regardless of circumstances. So don't feel fat and happy if you don't happen to feel threatened by this effort of a tiny number of naval architect professionals to corral and regulate all those creative boat designers who do not have credentials from their accredited schools. Your own activities are under scrutiny also. It's all in the interest of "public safety", folks.

On the Cover...

John Thomson's Green Heron is his creation of "the largest cruising boat for two that one can cartop", and he concludes his two part series on his design in this issue. Look familiar? Check back to the May 15 cover and note the subtle differences.

Small Boat Designers, An Endangered Species!

If the Society of Naval Architects & Marine Engineers (SNAME) succeeds in its campaign to require licensing of all who design small boats as a livelihood (or are thinking of so doing), the population of practicing small boat designers will be decimated, if not close to eliminated, when faced with the proposed requirements for obtaining this license.

What follows is an in-depth discussion of this threat from some of those affected, worth your attention if you value the opportunity to look over, and perhaps choose from, the variety of small boat designs available to you today. They'll all be gone, along with their creators, if this egregious exercise in self-interest on the part of a tiny professional group involved with the design of large vessels succeeds in its campaign.

There exists a situation of grave concern to all who enjoy "messing about in boats." The central core of those offering design and build services to the boating community are under threat of losing their livelihood, or risking jail time of up to 12 months, by a most egregious act of state by state licensing enforcement. Without due review, and lacking any clear mandate regarding public safety, it appears that the Society of Naval Architects and Marine Engineers (SNAME) is attempting to expropriate the field of small boat/yacht design from its rightful practitioners.

The National Society of Professional Engineers (NSPE) may be serving as an ill-advised agency to this scheme. Consider for a moment a *mildly revised* historical backdrop. Location, the province of Tuscany, time, May 1490. Events that are to shape future of the Arts for centuries to come are taking place.

Il Magnifico, Lorenzo de' Medici, the governor of Firenze (played by the chair of the SNAME licensing committee) has decreed that: "Henceforth ALL drawing, sculpture, and fresco commissions will be awarded *only* to government licensed contractors, trained in a rigorous 4-year program of disembodied Cartesian reductionism. The lascivious dangers of intuited, visionary, sense-informed art (small craft design) will no longer threaten our population and general well being. The former products of chaos will quickly be transformed into a *reason-based*, analytically proven art" (a gridded spreadsheet retinue of soulless design clones).

"Elimination of the malcontents, Donatello, Raphael, Michelangelo (played by Phil Bolger, Bruce Kirby, and Dick Newick, et al), will be done by government administered testing. Leonardo Da Vinci (Olin Stephens) will be grandfathered, thereby avoiding public outcry and lending credence to our *stratagem*." (translation, the wholesale appropriation of small draft design). Permit us to move forward in time, and across the Atlantic, to the Annapolis 2010 boat show. "Welcome aboard, folks, I saw you were admiring our new Clorox 48". Her palatial saloon, multiple drink holders, extended bimini spoiler and optional mast (in the unlikely event she should ever leave the wharf), clearly sets us apart from the other designs."

Webster's defines design, "To plan and carry out, esp. by artistic arrangement or in a skillful way. Or, the arrangement of parts, details, form, color, etc. so as to produce a complete and artistic unit. Latin root for design, *designare*."

"Desire: To await from the stars, to wish or long for... Latin root for desire, *desiderare*."

The act of design is an act of volition, it comes out of a felt need to express. If the design is *informed*, its inspiration is born of desire. Design and desire have, at their root, passion. To suggest or insist that design is *based* upon mathematics or principles of engineering is to evidence a myopia, a blindness of

Design Loss, or What's in a SNAME?

By F. Judson Pitman

colossal proportion! The basis of design is found, rather, in observation, intuition, and inspiration. The practitioner endeavors to express through form, beauty. Design is *primary*, and is no less than the very source of the boating industry's lifeblood. Engineering, in this vital collaboration, is *secondary*. Neither is diminished in these complimentary roles. Wisdom, too, asks that neither be subjugated to the other. We can only hope that SNAME's board is not attempting to cast *their* grid upon a practice that precedes theirs, and *exceeds* their grasp!

If my history is correct, design predates, by millennia, the "engineering disciplines" which evolved from military science after the Civil War. Specific to the issue of our water-craft, skilled engineers may ably assist the designer through the ever-unfolding development of analysis.

No less an authority than L. Francis Herreshoff expressed his view of the division of expertise in this way, in a story entitled "Cutters, Laying-to, Etc.," found in *An L. Francis Herreshoff Reader*.

[Regarding the distinction between sloops and cutters,] "How is it then," said Jovial, "that the naval architects call 'em cutters?" "Well, sir," said Precise, "they are naval architects, you couldn't expect them to know about yachting history. Great big fellows, you know, rather out of their element working on the design of yachts." End of quote.

It is the designer's responsibility to engage appropriate expertise as he/she deems fit. Their very reputation depends upon it. In the past five years I have had the rare privilege to meet, and follow the work of, one of the long-respected designers in this field. Having a background of some of industrial experience, I've not met a more well-regarded, knowledgeable, and professional group of practitioners. If there were attempts by any organization to deny them their rightful livelihood and reputation, this would be unconsciously shabby behavior! Is a modicum of respect too much to ask? Members of the design professionals have said that less than 1% of their fraternity would qualify to become registered. Is it possible that "the shoe don't fit?"

Again to Webster's: "Synthesis: the putting together of parts, or elements so as to form a whole. 2. a *unified whole in which opposites are reconciled*."

A healthy, vital industry needs visionary design and competent analysis to succeed. In sum, to *serve* the needs of all who love, work, or reflect upon the waters. If SNAME has in-

deed offered to *serve*, then it is beholden to all of us to *act* and to reconcile what, if any, changes need be made to the existing practice of design. It is instructive to find in the National Society for Professional Engineers Code of Ethics the following words: "Engineers, in the fulfillment of their professional duties, shall: Canon 2: Perform duties *only* in their areas of competence. a. Engineers shall undertake assignments only when qualified by education or experience in the *specific* technical fields involved. b. Engineers shall not affix their signatures to any plans or documents dealing with subject matter in which *they lack* competence... Canon 6: Conduct themselves honorably, responsibly, ethically, and lawfully so as to enhance the honor, reputation, and usefulness of the profession." (Italics added as emphasis)

The oversight of small craft design has been greatly informed by its pantheon of members: N.G. Herreshoff, Starling Burgess, John Alden, Sam Crocker, Olin Stephens, and continues to be, by the current school of "hard knocks" practitioners. Their legacy is ample testimony to this claim, as American yacht design history is rich with noble contributions. Indeed, in representing the U.S., they are second to no one! The French government recently designated the honor of "Monument Historique" to the 1968 OSTAR proa *Cheers*, of the designer Dick Newick. How different their approach. Fortunately, at the present time there are today many mentors and role models for young people entering the field to follow: There is no assurance of this access continuing.

Who among the proposed SNAME board has the qualifications to judge the worthy in matters such as these? Bear in mind that not one of the designers named held, or holds, a technical degree satisfying the proposed criteria. If you believe that good boats are a heritage worth preserving, the first step is to contact your state's licensing board so they may make hear other voices and opinions. If they reconsider, this will hopefully ensure the health of small craft design for years to come.

The opinions expressed are personal, as a boater. They are not intended to represent a professional or organizational view.

(F. Judson Pitman holds a BSME from UNH and a Masters of Engineering from UVA. He was first encouraged in the arts by his father, a PE of 30+ years. A lifelong sailor, he served as engineer on *Pride of Baltimore I*. He has developed curriculum and taught at NH Technical Institute, the Adult Degree Program at Norwich University, and is a founding member of American Engineers for Social Responsibility. His design-client company list includes, Osram-Sylvania, Mobil Solar, Carborundum, American Airlines, Nike Corporation, Hobart-TAFA, Data General, Thermalex, and Heidelberg Web Systems. He is a registered PE in Mechanical Engineering of 20 years.)

The New P.E.-Stamp Tax

A 4-Page Paper on a Minority's Grasp for Power over the American Waterfront (2/2001)

By Phil Bolger and Susanna Altenburger

The American fresh and salt waterfront has been a successful part of the economy since shortly after the Pilgrims landed in 1620. It has succeeded in designing and building every type of craft the market demanded, from kayaks to nuclear aircraft carriers, breaking new grounds up to the limits of physics.

Now, in an era of declining big ship construction, a limited number of highly trained big ship specialists attempt to restructure the industry in order to attain more durable personal financial security.

Demanding unprecedented "standards of professional admission" that will eliminate the competition which successfully kept the other sectors of this industry viable to this day, this self-interested push to rewrite a whole body of regulation smears with the implication of incompetence the good name of countless design and construction professionals, threatens the jobs of thousands and, with their all-intrusive mandatory P.E. fees, the pocketbooks of millions. They have quietly laid the groundwork and can now only be stopped politically.

The Waterfront's Learning Curve

Beginning with detailed evidence of shipbuilding in Egypt dating back four millennia, and Archimedes of Syracuse recording fundamental principles of physics underlying design and construction of boats and ships in the third century B.C., the learning curve of the art and science of design and construction has shown a continuous growth of knowledge, along with some spikes and some flat sections. It skimmed vital knowledge off other areas of technology and science as well.

Woodworking tools were adapted for construction of wooden craft from dugouts to 4000+ tons wooden sailing vessels. The technology of making cloth allowed sails as early primary motive power for sizeable vessels. Adapting steam engines offered independence from wind for reliable long distance trading schedules accelerating trade-based industrialization. And, with nuclear power, submarines run submerged for months in defense of the country.

The level of understanding of basics accelerated in the last century with a dramatically accumulating grasp of most phenomena governing the behavior of bodies in the medium of water with higher-end academics pushing into the farther theoretical reaches of fluid dynamics, liquid and gaseous.

By now the learning curve of knowledge necessary to design and build has more or less leveled off on a (lumpy) plateau of working knowledge adequate to fulfill nearly all needs of waterborne transport of people and goods. Manifold challenges have been mastered in the past such as vast scale WWII output, unrivaled Cold War Navy, high-end commercial transports, and super specialized surface and submarine craft. The waterfront's technology arrived for the first time at the "sound barrier" of water-based physics. Established are apparently firm limits of speed, endurance, capacity, and structural integrity.

What will remain of near infinite challenge is the number of possible combinations of mostly well-understood attributes in a viable concept designed to match a given list of requirements demanded in the marketplace. This takes creativity that cannot be taught, often exhibited as a talent of lateral thinking.

The fate of any well-developed industry's future depends on its ability to harness this creative talent wherever it presents itself and to protect all opportunities to develop intellectual dexterity vital to freely pursue unlimited conceptual possibilities for the benefit of client, and industry.

A Uniquely American Industrial Development - The "Policy of Open Doors"

On the American salt and fresh waterfront, the industry of design and construction of boats and ships is a rare case study of industrial development, unlike other forms of "nuts and bolts engineering."

What highly paid consultants may rediscover as essential in other branches of the economy, in every aspect of its very character this ancient industry is based on the principle of open doors to talent, ideas, and technology. This ancient industry has highly developed post industrial levels of human resource management diversity, long established interdisciplinary approaches to competitive product development, and a rich internal infrastructure to address just about any demand, from kayaks to carrier groups.

This old industry prospered, and with it the country, by adopting suitable technology wherever it could find it under the unformulated but pervasive, self-interested policy of open doors to "whatever works."

It prospered because since early on it remained explicitly open to talents from all walks of life, entering the trades and the industry, bringing with them fertile knowledge from other fields, different approaches of thinking, and a rich diversity of entrepreneurial skills.

Unlike waterfronts abroad where arbitrary self-serving guilds continue to stifle initiative and creativity, design and construction of boats and ships have always been open professions in America, to this day freely attracting the talented and motivated from every walk of life. As a consequence, the American waterfront has an unparalleled ability to offer the broadest diversity of talent that offer the broadest diversity of services to address the broadest diversity of demands to the broadest diversity of budgets and aspirations.

To attract the motivated and talented to rise into the ranks of successful professionals, the American professions of design and construction of vessels of all sizes and purpose have, over decades and centuries, developed a highly textured range of study and instruction, the diversity of which is typically not found in most other forms of engineering.

Which particular path an individual may pursue depends on inclination, talent, and opportunity:

Self study, often since childhood, is the

initial educational foundation for most successful individuals.

Correspondence courses continue to offer many consolidation of basic theoretical knowledge.

Apprenticeship with one or several "master" professionals often follows next, introducing as many practical aspects of the industry as the given master's standing can offer.

Internships do the same but with much shorter immersion between theoretical studies elsewhere.

Formal vocational training, combining design and construction, has grown in availability in several parts of the country, with some of them in business for decades.

Formal college/university academic studies have always appealed, for the most part, to those interested in larger vessel/ship construction and design with integrated internships and often job placement. Nationwide there is a handful of academic programs in naval architecture, catering traditionally mostly to the demands of large scale merchant marine and naval vessel design and construction.

Unfortunately this "big ship" domination of universities has repelled at its gates much talent that would shine later, as the attached list of leading pleasure and moderate-to-medium-sized working craft designers reflects; for instance, we understand that to this day the only four-year program in small craft/boat/yacht design and construction exists abroad in England. While this mentality has weakened in some departments, the problem persists as a size-oriented hierarchical mindset in the big ship sector.

Nevertheless, the waterfront's vitality was protected because it had evolved and maintained its characteristic broader range of study and instruction. On both ends of the economic and technological spectrum of the American waterfront, neither has a G.E.D. been held against individuals nor a super specialized post graduate degree in nuclear propulsion technology, both could find their niche in design.

Successfully Regulating This Ancient Industry

To this day, naval architecture/boat design/yacht design/designing boatbuilding remain unlicensed in 49 out of 50 states. Respecting this old industry's success of preserving its viability across time by attracting talent, motivation, and entrepreneurial drive wherever available, all the while well protecting public safety and state and federal regulations has purposefully concentrated on regulating its output.

Lawmakers throughout the Union, in state legislatures and Congress, have always been mindful of the economic and creative retardation, if not stagnation, the old countries suffered when industries were choked by the tyranny of narrow guild interests, based on arbitrary rules and serving the ego of a tiny bureaucratic minority instead of being open in a free market. Thus they carefully crafted regulation in measured incremental steps, adjust-

ing to both superseded concerns of yesteryear and newly emerging demands today.

This has worked, since boat and ship design and construction are rather straightforward to comprehend, with plans and all construction proceedings in all its calculations and construction details completely reviewable by customers and regulators, as well as the competition. In fact, both designers and builders live and die by constant public scrutiny of their talent, experience, and reputation.

From structural guidelines in scantlings tables, over detailed subsystems, to regulatory issues, the information base necessary for reasonably informed decisions about basic key attributes is readily available to anyone in the public interested in personally assessing a given product, even the most exotic attributes can be sampled for examination. Very little can be hidden in this industry buried under concrete, inside tires, or in food processing. Very unusual in engineering, this openness has always been part of doing business in this industry.

Consequently public safety concerns have always been right up front on the table, resulting in a track record in which casualties and fatalities directly related to design and construction are too small in numbers to ever have implied any systemic problem. This industry has not made headlines with mounting tragedies and spectacular industry breaking lawsuits.

This industry is thus distinctly different from many other forms of engineering which, due to size, ubiquity, or just different modus operandi were more prone to suffer tragic histories of disasters eventually causing severe regulatory action often regulating access to practice in those industries. Successfully protecting public safety and the waterfront's industrial viability into yet another century, the industry works within a carefully crafted framework of local, state, federal, and international regulation of its products.

No private think tank nor any blue ribbon governmental commission could have set up the intricate interaction of creativity, common sense, economic self-interest, tempered by carefully applied regulation, that has evolved on our waterfront over centuries, a prime example of Adam Smith's *Invisible Hand* shaping a freely evolving industry for mutual and national advantage.

A Minority's Proposal to Alter the Waterfront to its Own Lucrative Interests

Respecting and prospering in this successful status quo since in its founding in 1893, the Leadership of S.N.A.M.E (Society of Naval Architects and Marine Engineers) is now suddenly pushing to rewrite state laws to strictly regulate access through uniform licensure. This dramatic change of the industry's character is pursued without any particular pressing public demand, possible in the aftermath of mounting casualties for instance, and without having ever polled even its own membership for explicit democratic support of this unprecedented policy; nor has it consulted beyond its membership with the industry as a whole. Rather, it is the pressing economic needs of a minority in this industry that drives this sudden rush to abandon a very successful industrial infrastructure of attracting talent and ideas.

Proponents call this move "professionalizing the industry," a rather nasty smear on

its success of decades and centuries.

SNAME leadership argues for the amputation of almost all traditional access routes to the industry, except for the one whose curriculum is controlled by itself. It argues for imposing strict state-enforced P.E. (Professional Engineer) licensure requirements for everyone intending to be active in the business of practicing naval architecture, boat/yacht design, designing boatbuilding, etc.

The legal framework, along with its very tight definition of design, is taken from other forms of engineering with binding sequence of engineering undergraduate degree/4-8 years of experience/letters of recommendation/8-16 hour exam demanded in most states, before any work can be offered to the public for money. All other forms of access to design professions are explicitly rejected. Suddenly presumed guilty of incompetence, as defined by a narrow cadre within SNAME, every professional in design and construction is now supposed to prove his/her innocence before its inquisitors running nation-wide exams.

Most of the 20th century's most prolific, most built, and publicly most critiqued designers of craft, ranging from private yachts all the way to warships, while clearly successful in the marketplace, would never even have qualified to take this new SNAME exam, literally stopping dead their careers.

While not explicitly so stated, and glossed over largely in controlled in-house discussions, the policy is one of exclusion of de facto even a large segments of its own membership. SNAME insiders report 8% of its members have P.E.s, with only another 8-10% qualified to take it. And there is no policy for the non-member segment of the industry, illegalizing even a range of leading professionals who never saw SNAME as a reliable steward of their interests to begin with.

In-house dissent has so far been successfully suppressed with a mix of vague promises, explicitly limited democratic proceedings, and repeated statements/threats of inevitability of progress to be enforced without exceptions for anyone. SNAME insiders report a mix of fear, powerlessness, and naïve hope it won't touch unqualified members, and (as yet) relative political apathy pervading the ranks of those professionals whose future is about to be disrupted.

The leadership has apparently been successful so far in deflecting responsibility by stating that the actual outcome of the policy it initiated is legally in state regulators' hands, glossing over the fact that nationwide, despite some serious differences, many states show rather similar licensure laws for other types of engineering, producing a rather tightly-knit framework of restrictive regulation in SNAME's favor.

It presents a handful of reasons for its self-serving policy:

1. It quotes a Coast Guard advisory to the industry (NVIC 10-92) in which the Coast Guard suddenly announced preferential treatment for P.E. stamped plans for craft that are subject to its examination rather than the well-established decades proven practice of "first come, first served." The leadership insists that NVIC 10-92 would disadvantage all non-P.E.s, arguing with sincerity that it therefore follows that everyone should be a P.E., instead of pushing for its repeal.

2. It stresses constantly that naval architects and marine engineers deserve more re-

spect. Respect is sought, apparently beyond that derived traditionally from the quality of one's actual work.

3. Some practitioners had trouble with particular regulation of some states in which their personal interest in acquiring P.E. status resulted in some regulatory mismatch of P.E. exam topics, as none for naval architecture existed. As a professional organization, SNAME could have assisted locally in mediating those issues. After all, to this day P.E. licensure has not been required to practice design in nearly all states; whole fleets of civilian and military vessels have been designed and built without it.

4. Leaders cite the suddenly untenable situation of engineering being done by unexamined and uncertified (by new SNAME's standards) designers and builders, a remarkable display of its disrespect for the historic track record of their successful teachers and masters on whose shoulders they stand.

5. It wants to protect the public from illegitimate professionals deceiving unsuspecting clients. While in most states none of the terms naval architect/boat designer/yacht designer/designing boatbuilder have ever been regulatorily defined, there has never been a wave of impostors as this industry's characteristic openness would immediately reveal zero track record and stark incompetence.

6. Repeated often, being a P.E. is considered handy when moonlighting as expert witness.

7. Not stated very publicly, but inherent in the proposal, is the near guaranteed lifetime employment at near guaranteed income for even the least talented of P.E.s. By virtue of defining "design and engineering," the P.E. stamp will end up being necessary throughout design and building, but also during the lifetime of any craft. During repair and maintenance, anything beyond exact one-to-one exchange of originally specified (stamped and approved) parts would require counsel from a P.E.

The annual revenue stream will be very significant to the SNAME-approved cadre of P.E.s, now to be exclusively allowed to do any hint of designing/engineering on the American waterfront. Without ever actually having to produce completed designs, advisory fees alone could guarantee income. SNAME leadership thus seeks to inaugurate a new class of private bureaucrats (SNAME members only) living off the industry and public in perpetuity.

Imposing this New Stamp Tax on the American waterfront is deemed to be in America's own favor.

Dissenting SNAME members report that some of these ideas have been kicked around by a few literally for 30 years, with NVIC 10-92 actually embraced by proponents as a suitable push to get licensure going.

Creeping Decadence and Narrow Economic Self Interest

After a very successful period of spectacular success, the industry is beginning to face the reality that going faster, further, and bigger has met many physical limits, with past successes now in part also repeated elsewhere, often at less expense, in lower wage economies, and to levels of quality that are "good enough." Certainly the big ship/bluewater fleet sector of the American waterfront has become a victim of its own success. Many

communities have seen shut down their shipyards, with even large concerns contracting in an age when a lot of construction of large transport vessels has moved abroad and the naval fleet is built with only a limited number of warships requiring replacement. In the aftermath of path-breaking successes, big shipbuilding has in effect become a victim of its own success, with many casting around for a new focus.

Some have, by virtue of their specialization, always been in the business of creative cross-linking of discrete knowledge to match individual wish-lists. Others see ways to adapt their modus operandi towards this model, away from pursuing physical limits. But then there are those who cling to the past more stubbornly, blind to the pressing task at hand. With big ship biases only strengthened in the nostalgic review of past successes, they predictably ignore much of the rest of the industry, and thus its core quality of rich diversity. They increasingly emphasize internal hierarchies and formalities, such as licensure, under the predictable presumption that mostly the top really matters in the future of the industry, blissfully ignoring the increasing atrophy of the big ship sector.

The most spectacular manifestation of this decadent perception of reality is the increasing decay in SNAME leadership's ability as a professional organization to focus on the essential. Instead of supporting the industry in all its creative and productive capacities by formulating effective policies to pursue recovery of lost market share in the big ship sector, the leadership indulges in ill-defined notions of respect and petty comparisons to other forms of engineering, speculating that it would recover lost economic ground, and thus standing in the industry if it focussed on up-front formal requirements rather than on competitive output now. It spends the dues of members it knows to not qualify soon.

The leadership has, in 1999, confirmed in an extended in-house statement its long track record of being more or less out of touch with segments of the design and construction industry outside its own narrow big ship focus. But to this day it remains singularly unaware of a significant part of the design industry. The leadership never examined the absence of well-known designers from its membership roster. Multiple generations of such designers have experienced SNAME's biases as poor stewards of their interests.

In a characteristically open industry, SNAME leadership's gives into its penchant for non-public proceedings, from non-democratic pursuits of policy to a non-public website.

Instead of defending with pride the idiosyncratic nature of their successful industry as one centuries proven model of industrial development, they exhibit startling symptoms of inferiority complexes, going to great lengths to be like other forms of engineering.

Its proposed regime of professional cleansing constitutes the maximum feasible misunderstanding of this industry's successful character. To generate jobs for a few under-employed per state, the whole industry is put at risk. Disrupting the industry for the sake of the few implies a degree of destructiveness against which dissenting SNAME members, the industry, and the public must take a stand.

Manipulating 'the System' in Favor of its Private Lucrative Agenda

SNAME's leadership pursues its private agenda under the misleading image as 'representing' the industry.

To codify its particular agenda, the proponents of licensure in each state assembly would proceed to use the regulatory toolbox of so-called turnkey model law packages offered by NSPE (National Society of Professional Engineers/nspe.org). Developed for younger, much larger fields of very different character and history of engineering, the tight language of model laws was often arrived at in the aftermath of scandalous tragedies to prevent their repetition ever, and likely has been tested in court numerous times to further fine-tune its potency. Negating the track record of decades and centuries as a distinct industry with a distinct body of effective regulation, the leadership's policies draw the false picture of this industry as the last only recently discovered nuts and bolts type of engineering, which inexplicably has not yet been regulated to match the latest edition of the "Licensure Manual" of NSPE.

To achieve its goal, SNAME leadership had to submit to NCEES guidelines (National Council on Examination of Engineers and Surveyors/ncees.org), with both developing a P.E. licensing exam. It has succeeded in having 40 states (not Alaska, Arizona, California, Washington, DC, Hawaii, Michigan, Nevada, New Mexico, Oregon, or Rhode Island) express agreement to offer, but not immediately require, said exam to P.E. applicants. In October 1999 the first exam was conducted with 26 participants attending, "a disappointingly low turnout," according to one state licensing board head in light of SNAME's 11,000 members. Eleven passed on a downward adjusted grading curve. A second version of the exam, as required by NCEES statute, is apparently not yet completed (January 2001). April 2001 is the next exam.

Are there Positive Consequences?

The only positive claim of "(re-)professionalization" of the waterfront is presumably higher average levels of formal qualification literacy by allowing only P.E.s to be active in design, presumably resulting in higher levels of product development and therefore the industry's capability. But licensed professional literacy, as favored by leadership, reflects deeply institutionalized biases towards big ship ambitions in teaching and practice. Licensure would dramatically shrink the number of professionals allowed to practice, with those remaining unbalanced in their training and too few in number to run the industry efficiently. Out of fewer heads, trained under distinct biases already against significant segments of the industry, will come fewer likely numbers and range of ideas available to the industry's competitiveness.

The American waterfront's pluralistic routes of access have always produced a large number of market competitively literate individuals, with a limited number of high achievers finding their niche in the rarified scenario of highly complex projects. This healthy mix across the industry has proven to be a vital manifestation of industrial literacy. Torturing the straightjacket of licensure over this industry's fully developed body of infrastructure, practices, and conventions violates its core character.

Short Term Losses are Predictable

For the designer the consequences have already been outlined. With non-P.E. eligible designers to be illegal to own/run an engineering business, they are black-mailable by now indispensable P.E. associates. For the non-P.E. builder this would explicitly outlaw any degree of design-related activity. For the repair/maintenance services, formerly routine structural repairs will now be subject to costly P.E. approval processes based on densely defined prohibitions of once normal goings-on in the yard.

Owners will have to live with a new layer of added annual and lifetime costs, as they will be prohibited much do-it-yourself work, now forced to pay P.E. stamp fees for even minor changes on their craft.

Long Term Negative Consequences are Equally Predictable and Two-fold

On the macro economic level the impact is reduced domestic industrial capability to respond to market demands, fostering increasing import activity to fill the self-inflicted void. The American waterfront will immediately and permanently suffer serious reduction of talent influx. Licensure will dramatically shrink the viability of the small craft end of the domestic design and construction market (work/pleasure boats to 100'). As new levels of design fees and added building inefficiencies and bureaucratic losses can not be met by many potential clients, imports will be favored.

Market shrinkage will reduce the number of available projects for the industry while expenses remain. Market shrinkage will concentrate P.E.s in the last sectors perceived as lucrative enough, driving down their income, with licensed P.E.s as well then finding the new SNAME order too inhospitable. This will just leave the mid-level sector, now increasingly precarious in its talent and labor resources, as the industry would become too small to successfully deal with economic cycles without very serious manpower and structural disruptions on a regular basis, an economic environment in which neither long-term perspective can prosper, nor where talent will want to stay long. How far this domino effect is likely to reach is anyone's guess. What is known about the economic health of the American waterfront is the following:

Big ship design and construction is anemic, with SNAME leadership not adding to its prospects either.

Smaller draft design and construction industries are about to be severely disrupted as well, with long-term shrinkage inevitable under the economic penalties incurred by the new SNAME Stamp Tax. Mid-level design and construction (up to and around 200') would then be at a arbitrarily increased risk of its long-term viability unable to rely on the other two sectors to respond to market-demands with agility.

On the micro level this current regulatory development, once allowed, will spawn equally inevitable licensure for boatbuilders, licensure for repairers, licensure for a range of support services such as prop shops, engine sale and repair, mast builders, sail makers, etc. in the worst fashion of Old World guild system based strangulation of the economy. Once accepted and codified into law, the logic underlying SNAME's current push will always hold in these future ventures, as so-called amateurs and professionals could not coexist

in this brave new world of regulation driven self-destruction.

Resistance to this Shakedown of the American Waterfront

This technocratic shakedown of the American waterfront can only be prevented in the political arena. There are many more people hurt by this policy than there would ever be P.E.s. in your state. Resist this private effort to abuse public state agencies to drum up income for a few in your state.

There is no objective substance to any of the leadership's claims of an urgent need to protect public safety through licensure as our beaches are not awash with any victims of incompetent design and construction. Misrepresenting the industry, the leadership already has a colorful track record of self-serving state-

ments. It feels utterly certain to impose its private agenda on the American waterfront. Make an ally of your state representative and senator and speak out against this manipulative effort.

Talk to your Congressional members of both House and Senate to repeal NVIC-10/92. Coast Guard is currently badly dependent upon the good graces of Congress for its operating budget; it would be surprising to find them unwilling to lay on a few positions to reinstate tried and true, safety centered rather than P.E. convenience centered plans/examination so successful for so long. Kill NVIC-10/92. Exam eligible SNAME members should sit out the 04/20/01 exam to let it die from industry's rejection.

Exam ineligible members should join to demand their dues back in court as being used

against them.

All SNAME members should throw the rascals out in the August 2001 election. Should the election show signs of malfunction, leave the organization. With leaders like this, who needs a recession...

Duplicate this paper and pass it around to everybody you know who would care to Save the Waterfront.

To find out more on this issue, contact us at Phil Bolger & Friends, Gloucester MA 01930-1627.

Tom Jackson has an 8-page discussion of this topic in WoodenBoat #160, May/June 2001, starting on Page 50.

Here is an incomplete list of well-known widely published and widely-built 20th century designers of boats and ships. Under SNAME leadership's strict gatekeeping conditions, none of them would have qualified to even take the exam. Their combined output of completed designs can readily be estimated as being far into high four-digit figures, with numbers of boats actually built in the medium six digits. They have significantly influenced American boat/ship design history, catering to the full demographic range from working class clients to unlimited budgets. Their work has literally touched millions.

Their archives with classics of design history would be illegalized also:

- ◆ John Alden, MA - cruising yachts, founded major design firm.
- ◆ Hobie Alter, CA - invented Hobie Cat and other types of recreational craft with 10,000s built.
- ◆ Don Aronow, FL - designer and builder of racing and military craft such as cigarette types.
- ◆ William & John Atkin, CT - father and son team, yachts, commercial designs, hundreds of publications.
- ◆ Robert Beebe, CA - long-range Passagmakers power-cruising pioneer, seminal text.
- ◆ Phil Bolger, MA - affordable pleasurecraft \$50 and up, homebuilt and professional, hull-shape/rig R&D.
- ◆ Ted Brewer, WA/BC - cruising yachts and commercial work, textbook.
- ◆ Harold Burnham, MA - prime example of self-starter in design and construction of sailing replicas to 65'.
- ◆ Howard I. Chapelle, MD - maritime anthropologist/historian/designer,

Unqualified to Design Boats?

Smithsonian curator, U.N.

- ◆ Tom Colvin, VA/FL - cruising/commercial vessels, big ships, Newport News, advisor to Kaiser Alum.
- ◆ S.S. Crocker, MA - cruising and commercial vessels.
- ◆ Sam Devlin, WA - a prime example of a designer/builder of small power and sailing pleasure craft.
- ◆ Antonio Dias, NY/RI - designer of recreational craft.
- ◆ Tom Fexas, FL - custom and production power cruisers, mega yachts.
- ◆ William Garden, WA/BC - pleasure, commercial, patrol craft.
- ◆ Frederick Geiger, PA - power and sailing yachts.
- ◆ Dave Gerr, NY - power and sailing yachts, handbooks and formula collections.
- ◆ John L. Hacker, MI - cruising and military powerboats, racing powerboats to 100 mph in 1950.
- ◆ Halsey Herreshoff, RI - cruising yachts.
- ◆ L. Francis Herreshoff, MA - cruising and racing yachts, America's Cup.
- ◆ Nathaniel G. Herreshoff, RI - pioneer sail and power, steam specialist, major production house.
- ◆ Ron Holland, AUS/US - cruising and racing yachts.
- ◆ Ted Hood, MA/RI - cruising and racing yachts design and construction.
- ◆ C. Raymond Hunt, MA - R&D of fast powerboats Deep-Vee, sailing/power-cruisers.
- ◆ Rod Johnstone, CT/RI - cruiser/racer auxiliaries design and production.

- ◆ Bruce King, ME - high-end to mega yachts.
- ◆ Bruce Kirby, CT - pleasure craft, designer of LASER w/200,000+ built.
- ◆ A.E. Luders, CT - power and sailing yachts, major building firm.
- ◆ Walter McInnis, MA - yachts, commercial craft, Coast Guard cutters.
- ◆ Ralph Munroe, FL - pioneer of seaworthy shallow draft yachts and commercial craft.
- ◆ Dick Newick, ME - multihull pioneer.
- ◆ Robert Perry, WA - racers and cruisers, sail and power, many production boats.
- ◆ Cary Smith, PA - cruising and racing yachts, mega yachts.
- ◆ Olin Stephens, NY/VT - world's premier yacht designer, co-founder of Sparkman & Stephens.
- ◆ Glen L. Witt, CA - pleasure small craft, homebuilding, kits.

These professionals, often with a broad educational background unrelated to naval architecture, competed/worked/work side-by-side with degreed professionals in a wide open industry, offering their talents to the public in the open market place.

On the other hand, SNAME leadership features no well-known designers as associated with the effort. However, it includes some towering specialists with careers as instructors, consultants, system engineers, former Navy brass. So far no design portfolios have been offered to the public. A respected ship propulsion expert, its outgoing executive director Prof. Feminia authored a standard text on steam-propulsion, and teaches at Kings Point, New York.

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Activities & Events...

35th Annual Crocker Memorial Race

The 35th Anniversary Crocker Memorial Race, honoring internationally renowned yacht designer Samuel Sturgis Crocker, will be held July 21 on the waters off Manchester-By-The-Sea, Massachusetts, sponsored jointly by the Manchester Yacht Club and the Manchester Harbor Boat Club, of which S.S.C. was a founding member.

The race is open to all yachts carrying U.S.C.G. required safety equipment. It epitomizes that special spirit represented by S.S. Crocker, combining those characteristics of both cruising and racing which emphasize seamanship and love of sailing. Traditionally a fun race for the skipper with little or no racing experience as well as the seasoned racer, come and enjoy the friendly atmosphere and the excitement of competition.

For further information call John Lind, (978) 526-9636, <jtlind@tiac.net>, Crocker Memorial Race Committee, 24 Woodholm Road, Manchester By-The-Sea, MA 01944.

A Great Winter Sailing

We have had a great winter sailing our Cornish Shrimper 19 here in Stuart on the St. Lucie river. Our seasons are just reversed from the north, I will pull the boat in June and re-launch in October. It's too hot in summer and the early fall hurricane season is better spent on land.

Dick Berry, Stuart, FL

Information of Interest...

Newfoundland Music of the Sea

Newfoundlanders living away from their homeland have two great remedies for homesickness. First is an all night round of card playing at the kitchen table with friends and family. Forty Fives and Auction are the favored games. Take some Newfoundland musical tapes or CDs, a rocking chair, your stereo or boom box, and you have the second remedy. From this 500 year old maritime culture has evolved a people blessed with a wealth of musical talent and a great wit coupled to the unique ability to play instruments, sing and tell stories about themselves and their history. This music is gradually being discovered and has been very well received all over mainland Canada. The group "Great Big Sea" are very popular in Boston and the music and antics of "Buddy, Wasisname and the Other Feller" were enjoyed by audiences in Maine, where they performed recently.

Sprinkled throughout all of the many tapes and CDs produced by singers and musicians from the Newfoundland Music Industry are many great selections about the joys and perils of boating and being on the water. Rowing, sailing, piracy, shipwrecks, fishing, sea disasters, endangered species and other nautical topics. In order to get the nautical songs, you need to buy the albums. Most have at least

one or two. If you are visiting the province, the music can be bought just about anywhere goods are sold. Most of the better souvenir shops have the players to let you listen. The Downhomer, 303 Water St., St. John's, NF A1C 1B9 has a extensive NF music catalog and sells mailorder. O'Brien's Music Store across the street has sheet music and instruments.

Want to hear it now? Go to your computer. www.downhomer.com will get you connected to an extensive musical catalog with links to the sites of the artists. For starters try:

Theresa Maria, The Richman and Banks of Newfoundland, all three by Fine Crowd (Poverty Arse and Sucker for Good Company albums)

My New Plank Boat (anyone who has built or repaired a boat can relate to this one), *Down by the Water* by Bobby Evans (Songs of the Island album).

The Loss of the U.S. Navy's WWII ThruXTon and Pollux by Simani (Outport People album).

Haul Up your Boats, Back to the Sea, and *The Plank is off Me Boat* by Tim Brown (Picket Fence album).

Badger Drive (depicts log driving on Exploits River) and *Jack Was Every Inch a Sailor* by Paddy Gearin.

Prohibition Way (running rum to Boston on schooners) by the Punters.

Heave Away by the Fables.

Little Boats of Newfoundland and *Tiny Red Light* by Singers for Fishermen.

Henry Martin, a musical masterpiece often called *The Pirate Song*, by Pamela Morgan (Figg Duff retrospective album).

The Union from St. Johns by Pamela Morgan and Anita Best, *Let Me Fish off Cape St. Mary's* and *The Star of Logy Bay*, (All the Best Album by Pigeon Inlet Productions, St. Johns NF).

They sell sheet music and the lyrics of traditional favorites.

Making for the Harbor by Buddy, Wasisname and the Other Fellers in the Album of the same title. A great song depicting the return of the heavily laden wooden trap skiffs to the harbor from the fishing grounds. *Saltwater Joys and Row Boys, Row*, look for on their other albums.

A best bet would be the *Look to the Sea* album by the Irish Descendants. It's loaded with nautical music.

This is only the tip of the iceberg. The rest is yours to discover.

Charlie Ballou, Wilmington, MA

Norwegian Arctic Trips

This summer, on July 18 -July 26, we will take a small group to our favorite river in northern Norway. Home base will be on our family farm in the beautiful Reisa River valley, allowing you to have an opportunity to experience this special area in a way that is rarely possible for a tourist.

This canoeing adventure takes you to the "Land of the Midnight Sun", 200 miles above the Arctic Circle. We will run the Reisa River

from the waterfalls of the Reisa National Park to the sea. We will stop at the impressive 800' Mollis Falls, hike to reindeer pastures above the tree line and go deep sea fishing off the rugged coast of northern Norway.

My wife Linda and I will be your guides, and you will have a chance to paddle the PakCanoes. Cost is \$1495 per person and includes all transportation, meals, lodging (including tents when we are camping), guides, and the use of canoeing and community gear while you are with us. Fee does not include your travel to and from the Reisa area.

Alv Elvestad, Pakboats, P.O. Box 700, Enfield, NH 03748, (603) 632-9500, <scansport@connriver.net>, www.pakboats.com

Opinions...

Appalled by Safety Article

As a boater and a 21 year New Jersey certified fire fighter, I was appalled to read the article by Dave Carnell, "Small Boat Safety - Fire Extinguishers" in the April 15 issue. He was very lucky to be able write the article. If he doesn't choose to believe his electricians (people who deal with electricity professionally) when they suggest that electricity can travel through a column of water, he should ask someone who has peed on an electric fence.

I suspect that while he was spraying water on the electric box the ground at his feet was getting wet, making a bad situation worse. As little as 0.1 amp can be fatal. He was taking a major risk with an extreme shock hazard. To suggest that others do the same is very irresponsible. It is possible to get a shock from 12 volts under the right conditions.

It is necessary to understand how fire extinguishers work. There are three essential elements of fire (a fourth element in complex fires is chemical reaction). The three elements are heat, oxygen, and fuel. Fire extinguishers work by removing one of the essential elements. The "C" on an A-B-C fire extinguisher means that it is safe to use on electrical fires. Safe means first, it will not cause undue risk to the user; that is, the extinguishing agent is not a conductor. Second, it will not harm electrical equipment.

The reason his fire was not put out with the fire extinguisher was because electric sparks or arcing are not the same as fire. They don't need oxygen, are hot enough to vaporize water, and the spark itself doesn't need fuel. What was actually burning were plastic insulators, paint, possibly the wood that the box was mounted on and, probably, parts of the house. All of these were ignited by the heat of the sparks. The reason the fire went out when water was sprayed on it was that the water created paths for electricity to flow to other components inside the box, or to ground, stopping the arcing which eliminated the heat source. The water then had the ability to extinguish the fire.

The only safe way to stop the arcing would be to turn off the power. Dave mentions another problem with what he did, the noxious fumes. However, the fumes were not just from the fire extinguisher. Burning plastics and paints, as in this case, can give off

very toxic chemicals. Anyone fighting a fire of this type should be dressed in full protective clothing and use SCBA (self contained breathing apparatus).

What Dave should have done in this situation was call 911, helped the nurse get his wife out of the house and leave the firefighting to the people who know what they are doing. In fire fighting the first priority is saving lives, property comes second. Dave was risking the lives of himself, his wife, and the nurse by not getting them to safety before attempting to protect his property.

Articles in a boating magazine about people fighting electrical fires at their home with a garden hose should appear under some heading other than "Boating Safety".

Alan Athearn, Rockland, ME

Editor Comments: Alan's concerns are valid, but perhaps, due to his not being aware of Dave's actual circumstances, are based on worst case assumptions. I am not going to get into a discussion here of how electricity works (I once earned my living as an electrical engineer) but sympathized with Dave's approach to dealing with his fire and thus published his article. Calling 911 is okay but then awaiting help's arrival is not, if one can, in the meantime, act effectively on one's own behalf. The most effective time to fight a fire is when it is just getting going and is still of manageable size. I still regard self-reliance as a valuable strategy for dealing with life's bad moments.

Outboard Blues

Outboard motors at times are a necessary nuisance in small sailboats, but with OMC (Johnson/Evinrude) problems and, I just learned, the demise of Mighty Mite Motors in Connecticut, the nuisance/service factors have escalated. OMC apparently has a corporate rescuer, with noble promises, but the bottom line could ultimately numb the altruism. My patriotism has caught me with three OMC motors, 6hp and under, one Mighty Mite 2hp and (in a lapse of patriotism), a 2hp short shaft Seagull picked up at local sale impulsively. The latter just runs and runs trying to win my favor, but despite the performance, I like a clutch, so I can warm the motor at the slip without attacking the dock.

Small motors can be turned 360 degrees and the boat hangs on the dock lines during warmup, making direct drive more tolerable, which is how I came to be the owner the Mighty Mite 2hp. Also, I like the light weight, so I don't have to worry about the motor taking a "walk" in the public environment, I can easily take it back and forth, storing it safely.

A clutch, like so many of our modern conveniences that ultimately inconvenience, can strip the gears if shifted while the motor is running too fast, or if, as happened in my case, the two bolts holding the lower drive casing and propeller shaft loosen and strip the gear. Then you learn, after considerable internet time and phone expense, that your neat little motor is a candidate for the junk heap, because parts are not available.

Your magazine ads rescued me. I located a fellow at the Jersey shore who, over a period of time, had advertised used small motors. He called the engine a Neptune, and I was familiar with it from a library description, but I suspected it was a Mighty Mite. It was,

and the serial number was very close to mine. He wouldn't sell the part off the motor, but I needed the part so I bought the motor, recalling later what a great find the Seagull had been.

I am retired, aged 74, and I assure you that this episode was a luxury in which only a retired boat addict with time to spend could indulge. Included in the learning experience was the knowledge that a new 3hp long shaft, with the neutral feature, costs over \$700, taxes included. The realization that a new motor is quickly an old motor, with the parts/service (\$65/hr) concerns, is disconcerting. May I suggest shifting only with the motor off for motor longevity. Once warmed, restarting is seldom a problem.

There is, of course, an answer that readers of *Messing About in Boats* have been expounding all along, smaller boats. For the new sailor, I suggest a dinghy under 300lbs, about 16', under 125sf sail area, warmer weather/water (hypothermia), and of course, a trailer. You don't really need a motor, and you'll forget the paddle when you are experienced. Stick to non tidal water. Start off on the leeward side of the dock so you aren't pinned at the start, and seek some help during the learning process. We read much about lives disrupted by addictions. This is one to cultivate, and enjoy practically your whole life. I mean SMALL BOATS!

Tom Wynne, Chalfont, PA

This Magazine...

Why Do I Read MAIB?

Interesting water stories by people who do interesting things, recent example, "23 Days Before the Mast" by Jeff Douthwaite.

Sometimes very literary articles such as the recent "The Magic Beyond the Bridge" by Roger Rodibaugh.

Always pictures of various lovely small boats.

An editor who lets the writers express themselves in their own individual styles, and himself offers observations and opinions worth reading.

Attractive, individualistic ads.

I feel good in the company of such writers.

Here is my small contribution, copied from a Japanese artist's woodblock print showing two interesting boats with exaggerated long high bows. Why? If the practical people who lived and worked on the water in all seasons made use of such a design, why don't we employ it today? Perhaps Phil Bolger or other knowledgeable readers might explain.

Jack Hornung, Seattle, WA

Editor Comments: Jack is one of those reader/writers who has contributed some of those interesting water stories.

A Great Service

You do all small boat cruisers a great service in publishing articles like Don Elliott's "Capsize". The illustrations are excellent but a bit light and small for clarity, especially the one in your last issue showing the anatomy of a thunderstorm. Would very much like to see a copy of this larger.

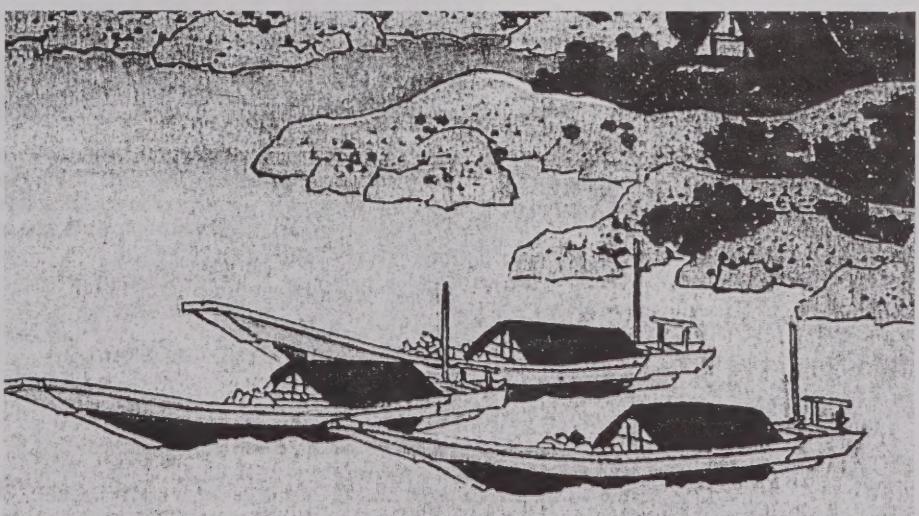
Thunderstorms are truly hairy, the ferocity and suddenness with which they can hit is amazing. In our part of North Carolina one has to be very much on the lookout for them from April thru October, especially during July and August. There must be weather experts in your readership. Info on how to read a front and anticipate the possibility of a thunderstorm would be great to have. Down here when you go over there is a 90% chance that you'll get your masts stuck into the bottom, which is no fun and darn hard to get your boat back up.

Editor Comments: The illustrations with Don Elliott's series are from the floppy disc on which it was supplied, we have no hard copies of the original illustrations and can do no better on clarity than the computer permits. We can perhaps try larger reproductions.

Making Thousands Happy

I thank you for continuing to keep *MAIB* interesting and informative. Every issue brings a lesson and great entertainment. I particularly enjoy Tom Shaw and Robb White. Please keep making thousands happy twice a month!

Andrew Searle, Springfield, VT.



Sometimes it's just good to be alone. Anchored in the geographic center of Florida Bay, the back country as the natives call it, I was probably more alone, farther from the next human than, I'd ever been in my life. All the people in the keys live within about fifty feet of the highway, and I was about twelve miles north. It's an area of about four hundred square miles of pretty thin warm water dotted with hundreds, no, thousands of uninhabitable mangrove islands. Most, if not all, are wildlife sanctuaries, and you can't go ashore, but you wouldn't want to anyway. They're full of sharp nasty plants and rocks and I don't even want to think about the summer fauna. Nobody comes out here but a very few fishermen, and they're not here at dawn.

My yacht, Green Heron, was originally conceived as a tiny floating cottage, (see the previous issue and MAIB April 15, '98) and evolved into a more seaworthy craft, but still built around the idea that it's nice to live on the water. I've always thought that our idea of cruising usually puts too much emphasis on getting there and not enough on *being* there. It affects the design of cruising boats.

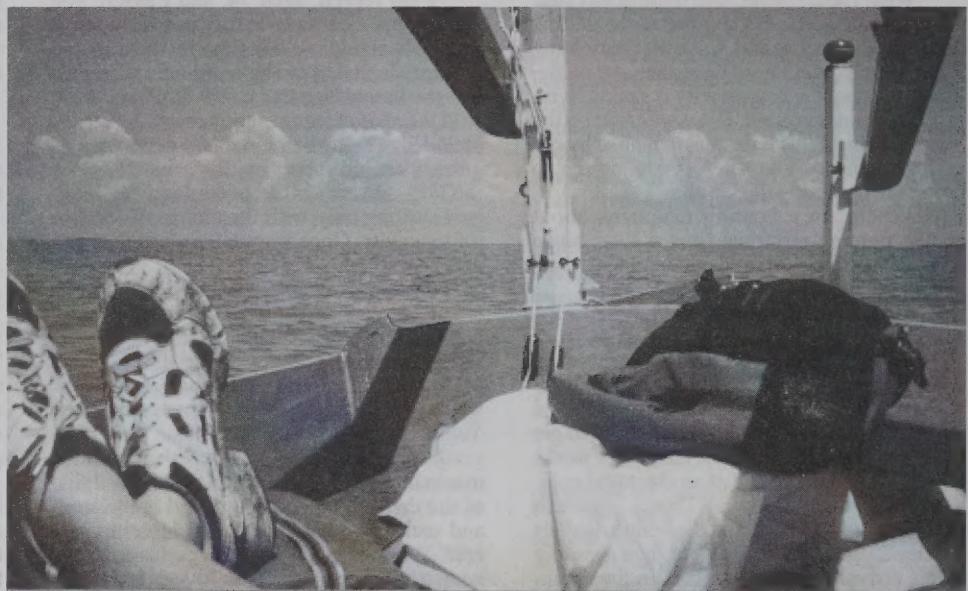
For the last two years I've been there for a few winter days among the keys in Florida Bay. Of course, winter there means seventy degrees, fluffy cumulus, gentle winds. Like the locals complain, "another day in paradise!" I find that I start thinking of March in the keys, along about October.

I don't know any better than anybody else why some of us like being on the water, but it's something I've always loved, at least for a few days. The experience can range from, uncomfortable as in miserable, to dangerous, as in drowned. But then there's the other side. If the physiologists ever find the location of the neural structures that control our impulse to be on the water, it'll be deep in the brain stem next door to the sites that deal with heartbeat and breathing. We evolved from water critters, are still about 75% water, and have spent 90% of our evolutionary history in the water. So it doesn't seem too far fetched to think there might be psychological, emotional structures analogous to physical ones like our tails and gills.

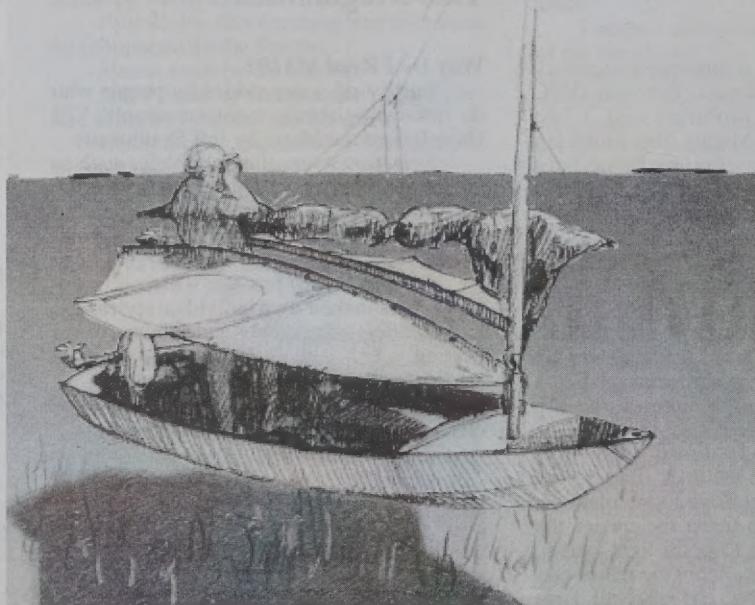
Except for two or three hours a day sailing between islands, I spent most of my time anchored in six inches of water twenty feet offshore from various islands, usually positioned where I had a good view of flats, the sunset, the moonrise. It was a busy time; watching stuff, reading, playing music, exploring the flats, sleeping, drawing, refining the boat design, eating, watching stuff, etc. etc.

Four Days in March

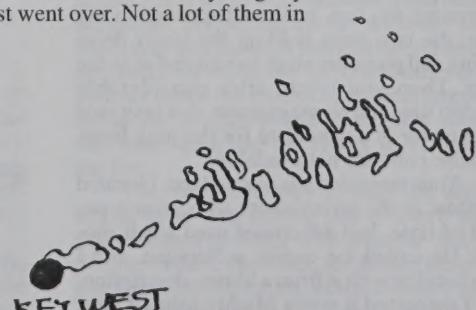
By John Thomson



The first morning, outward bound for Russell Key, about twelve miles dead ahead due north. First time on the water in about six months. Bright sky and the first fluffy cumulus I had seen in several Yankee months. Two days before, I had been up to my _____ (fill in whatever anatomical feature you prefer) in an upstate New York winter. It was hard to get used to, but I tried hard.



Binoculars, and these particular binoculars, have always been among my favorite things. 7x35 wide angle binoculars, \$25, 1967, Sears and Roebuck, well worn, but as good as new, and here in paradise, an absolute must. They magnify the whole experience. A flight of tropic birds just went over. Not a lot of them in upstate New York.



on a Green Heron in the Keys



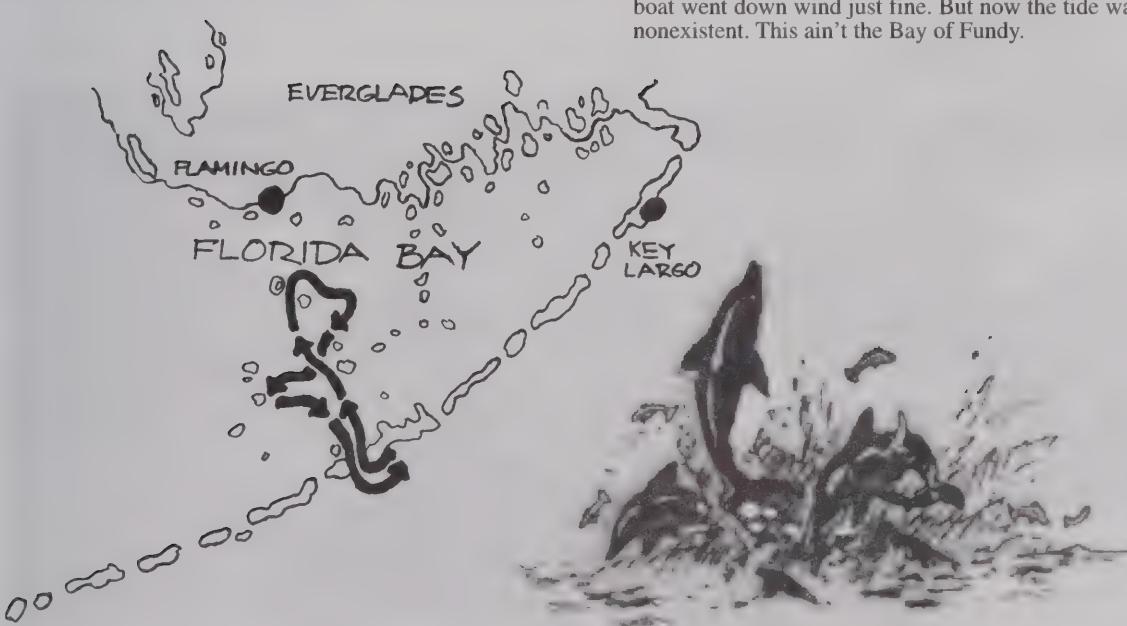
Not a bad morning. The sunrise this morning looked like the Japanese battle flag, but it didn't come out in the photograph. I was usually up well before sunrise so as not to miss the best part of the day, and would turn in early in the evening, and watch the moon and sky and listen to the subtropical night sounds. Sometimes I wouldn't get to sleep until midnight.



One cormorant surfaced fifty feet away
followed two seconds later
by 743 little fish
(by actual count).



Here we are a mile or so from land playing African Queen (no leeches). A few days before I had sailed downwind across this hundred yard stretch of shoal at high tide. A finger over the side had showed three inches, and another six of marl ooz. The keel (an inch and a half deep) left a straight groove in the mud but the boat went down wind just fine. But now the tide was out. Tides here are almost nonexistent. This ain't the Bay of Fundy.



I saw and heard this event several times, several dolphins cavorting with a much bigger number of fish about eighteen inches long that flashed silver in the sunlight. The dolphins seemed to be having a grand ole time. Not so the silvery fish.



Snowy egret in the mangroves where there was lots of wildlife: fish, crabs, small birds, and I imagine in the summer, lots and lots and lots of bugs. Most of the land around here is built by the mangroves, they send out their roots (probably not the right term) in a few inches of water which trap silt which forms islands. Wonderful for all kinds of critters.



Caught out of the corner of my eye, swimming east about a hundred feet away, and amazingly still there when I frantically got it in the binoculars. The hindmost cormorant then raised his head with a big grin that let me know that he knew I'd been had. Us birdwatchers know that the average cormorant has a keen sense of humor.



Shade. An experience like this could get pretty uncomfortable without shade. The system works pretty well with one or both the sides held out by fiberglass wands. It works fine, but there's an ad-hoc feel (not ship-shape) about it that could use some refinement.

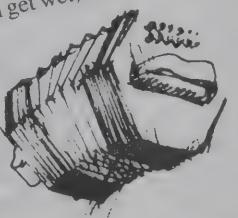
Note the Iron Breeze. After thirty-five years of being on the water, I finally bought a motor. The best in the world, a Honda two horse four cycle, but still vastly inferior to ninety square feet of tanbark dacron, unless you get twenty miles out in the back country, and have to get back the next day and there ain't no wind. No offence to the hard core rowers, but I think the novelty of rowing wears off after a few hours.



The galley in operation. Food and cooking were basic, but there's not a five star restaurant on earth with as elegant a dining room and the price is right. When I'm aboard, I have to hold the can, (or pot when I want to be more civilized) so it won't spill, I've tried to think up some sort of rack to keep the dinner from spilling all over the usual clutter in the boat, (and then there's the fire), but holding it might be better than hauling along one more piece of gear. If I'm wading around the campsite, as I often do, it can take care of itself. Diet coke will stay ice cold for a couple of days, and then I have to rough it.

The ship's band. The concertina has always been a sailor's instrument for the same reasons that it usually goes cruising with me. It's small, fairly tough, can get wet, and above all, it's cheap, and even better, real easy to play. If you can play a harmonica, you can play a concertina. It's the same pattern of ins and outs, and harmonicas are kids' instruments (at least they were in the first half of the recent century).

So here in the keys with the moon rising you can hear sailor music sometimes hundreds of years old.





Little brown sharks. They were usually gone before I had time to fear for my toes.



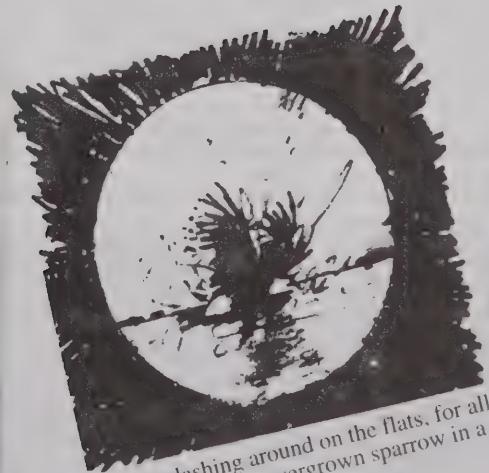
It seemed so strange to see
the north star
so low.



Full moon rising. Anchored in a
few inches of water off
Lisa and Ellie islands. Named
after my two daughters. Hey why
not? It seems certain that previous
discoverers never named them.



Interior in a good wind aground on the flats where I spent part of an afternoon, evening, and night, with too much wind for comfortable sailing, and sailed home reefed the next morning. This was the first real wind for the tent, and it held up pretty well except for one of the velcro fastenings, which will be easy to fix. Just needs a bigger piece of velcro.



Eagle splashing around on the flats, for all
the world like an overgrown sparrow in a
gigantic bird bath.

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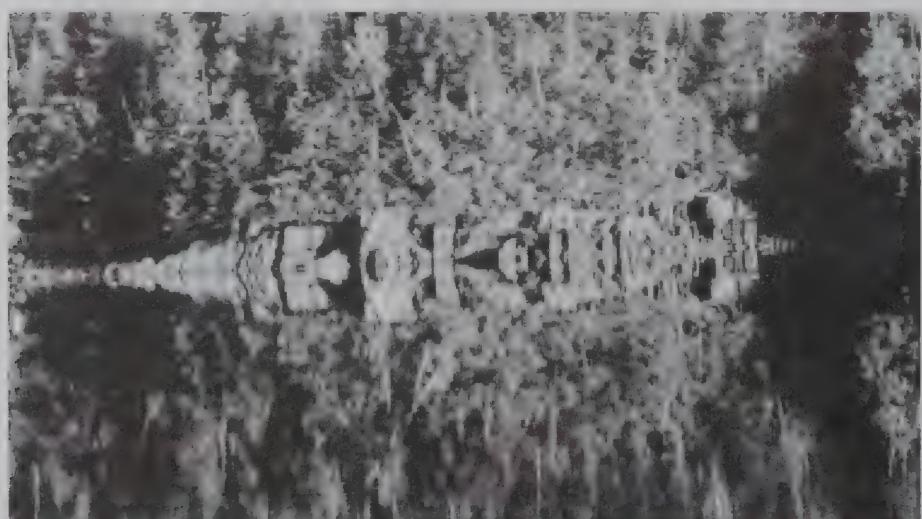


Killer whale pod.

A Whale, Orcas, and How the Rich Relax: The next morning at Namu, several of our party went ashore for an early walk and reported at breakfast that they could hear a whale blowing in the bay although they couldn't spot it. Soon after *Duen* departed Namu, we spotted a humpback smoothly diving and surfacing near one of the protective islands (the performance looked like the top portion of a large inflated inner tube rotating vertically in the water). It was our second whale. The previous humpback had been spotted, appropriately enough, in Whale Channel and was then enthusiastically rehearsing its repertory of gymnastic tricks. Near the Namu whale was a sport fishing center console outboard with a guide standing at the wheel and a man and woman seated in the front cockpit. They were watching the whale, the guide was moving the boat towards where he expected the whale would surface again. We moved outside the island and saw a couple other similar boats farther out in Fitz Hugh Sound, each with guide and two sports. Soon we spotted the mother ship, a superbly maintained old tug named *Union Jack*, one of two tugboats belonging to Westwind Tugboat Adventures that take sport fishermen out for a week of action. Unfortunately, the tug's traditional lines were spoiled by what looked like a garden potting shed overhanging the stern and several more guide boats being towed along. Soon we lost the whale and the three guide boats shifted to fishing for coho salmon.

We worked our leisurely way down Fitz Hugh Sound that day. Late that afternoon as

The ledge that made a totem pole when viewed sideways.



turning of the wheel. Turn the wheel half a revolution and wait half a minute or so to see how well the vessel started to turn, then put in a correction and repeat the process. After a while, and with experience, you only put in a spoke or two and soon after take that out. *Duen* then usually does what you want her to do.

I had steered her often enough before, but only in daylight and on courses that were general in nature: "Keep well clear of that side" or "run down the middle" or "bear right once you get around that point." Now I was in the black of night, now and again hunkering down to read a dimly lit compass off to one side as I tried to keep *Duen* within a few degrees of the assigned course, all the time wondering how close the shore was on each side. The channel was narrow, that I knew from previous looks at the chart. Michael, however, didn't seem concerned, staying below in his cabin most of the time and occasionally calling out to ask what I was steering or requesting a few degrees of changed course. I thought he was demonstrating remarkable confidence in my steering skill until I shifted to the other side on the wheel and could look down into the cabin. There he had both GPS and the bright green radar display to tell him, with great precision, exactly where we were. I stopped worrying. The channel finally came to an end and *Duen* rounded up and the anchor was dropped. We were in a tight little cove, surrounded by trees visible against the night sky. The chart said our anchorage was called Pruth Bay.

Next morning, Mike and I were photographing the calm cove when he pointed out that a rock outcropping was reflected in the glassy water and that together rock and reflection made a lovely totem pole when viewed sideways. I tilted my head, they did, and the rock was duly photographed with my camera on its side. Ashore we could see floats with boats tied alongside, an arching sign announcing that this was the Hakai Beach Lodge, and beyond it some low, rustic log cabins and a complex of larger, two-story, motel-like buildings made from squared-off logs and topped with shiny metal roofs painted a bright plastic red. Neatly mowed lawns complemented these buildings. Hakai Beach Lodge was a luxury fishing resort, quite different from our more plebian, down-to-earth (sorry) seagoing exploration of the wonders of nature. The lodge may have been named after the nearby Hakai Passage.

Michael and Tim had scheduled a stretch in the engine room (the tight-quartered space under the after cabin floor) to fix a jack shaft from which all auxiliary ship's services were powered. The shaft had shifted on its brackets and the consequent reluctance of the hydraulic pump to pump quite enough fluid through the anchor windlass had meant that getting the anchor up had been iffy several times. The shaft must be moved back into its proper location and now was a good time to do it. The rest of us would go ashore, rubberneck the lodge, and visit a beach on the other side of the island.

We Zodiac'd ashore. On the pier were scoreboards listing the biggest fish of several types caught by well-to-do sport fishermen, now long departed because the lodge was closed. We found an easy trail that led on flat ground past the buildings and a tennis court and through the woods. It finally ended at a scooping beach between headlands. The tide was low, exposing a long sweep of yellow-

white sand. The open sea lay before us, a refreshing change from being enclosed for so many days. Like most northwest beaches, it had a high water line of bark-free, gray-bleached logs and trees, all very sea-worn and forming an almost continuous barrier between beach and woods. Traces of a fire or fires, discarded bottle caps in the sand, and an overflowing rubbish barrel were signs that the wealthy had been treated to beachside meals in a dinner nook between some logs. A path suitable for a vehicle ended at this spot, showing how food and beverages arrived for the beach parties. I only wished the staff had emptied the barrel before they left at season's end.

The rest of our party took off to explore what lay in either direction, but Joan and I stayed on the beach, communing peacefully with nature and each other. I wrote her name on the sand with long strands of kelp and made several sculptures of breeching killer whales, like the ones we had seen the day before, by poking curving sticks and branches into the sand to represent the arcs of their arching backs and tall fins. We walked the beach looking for interesting, perhaps keepable, flotsam and jetsam. Nothing much was keepable, but then we found the spoor of something large, paw marks so large that I couldn't cover one with the palm of my hand. Cat or bear? Or what?

The others straggled back more or less at the appointed hour of noon with tales of climbing a hill, spotting birds, exploring trails whose directional signs had been mischievously switched, and even swimming in the quite cold water. Jo had promised herself she would swim on the eastern side of the Pacific, so many miles from her New Zealand, and swim she did, even staying in quite a long time (after the first shock of entry, why not)? We slowly wandered back to the lodge, Dee and several others picking berries along the way as usual. At the lodge the caretaker appeared, greeted us cordially, and told how the guests fly in, often in their own seaplanes or helicopters! All had departed back in August and he had turned off the generator that morning and was emptying the freezers. Would we like anything? We accepted tubs of feta cheese and red-hot pickles, two flats of eggs, and numerous other goodies and staples that Tim might be able to use, enough to require the loan of a little red wagon to take our loot to the Zodiac. There were even two packages of bait herring marked "not for human consumption" but all of a size, neatly laid in rows and wrapped in plastic and looking good enough to eat. Frances might yet catch a fish!

On *Duen*, Michael and Tim, often visible only as two bottoms and assorted legs as they bent down into the engine room, were finishing up. The jack shaft had been fixed, the hand cleaner accidentally spilled was being wiped up, and tools were being gathered and placed into the several tool boxes. We would be underway soon. The engine started, and the hydraulic windlass happily groaned in the wire to retrieve the anchor. We powered out of Pruth Bay and down the long channel. Again I was steering. I was amused somehow by an unexpected evidence of mankind, a cluster of antennas atop Mt. Burton (3325 feet) to starboard in the middle of Calvert Island. Among the antennas, no doubt, were those of VHF relays, which explained how weather broadcasts had reached us, even when we were anchored in remote coves tucked down between mountains. The channel was funneling



Mike (top) and Jim Fixing the jackshaft of engine.



Tree whimsy to amuse the rich.

a brisk wind onto my back and neck and they felt unpleasantly cold. I wished I had put on an extra shirt. It was good when we reached Fitz Hugh Sound again with its slower, warmer breezes.

That night, I researched the paw marks in the reference library. Undoubtedly they were made by a cat, a very large cat, a cat as in puma, mountain lion, American lion, cougar, panther, painter, or catamount. Felix con color, in short.

Penultimacy in God's Pocket: It was the next-to-last day of our trip, a bright, sunny day with a good steady wind, and we were sailing for the second and last time, sailing towards Port Hardy. Today we had miles to cover, amassing probably the largest mileage of any day in our voyage. But we would make one stop. On an island not far from Port Hardy is a lovely little cove, a hole in the wall, that bears the charming name of God's Pocket. Inside the cove is a boat float and a series of small buildings rising up a hillside. They belong to a scuba diving resort that might be described as serviceable and comfortable, a far cry indeed from the luxuries of either the Union Jack or the Hakai Beach Lodge. We sailed into the cove, doused sails, and tied up. Walking up the float's ramp brought us to the resort's main building. Inside was a room crowded with a big table and chairs. This obviously, was the resort's dining room. Its other furnishings included a counter with a cash register and a few supplies, some shelves for books, and a side room fitted with easy chairs for relaxation. Somewhere nearby was a kitchen. The porch outside continued uphill and segued into a path past showers, a laundry in a shed, and several small buildings used as dormitories.

After buying a few bars of candy, our party headed up the path for a beach some 15 minutes away. The climb steepened as we entered the woods and those athletic New

Zealand oldsters walked ahead, leaving Joan and I to set our own (read "slower") pace. A trailside sign announced that we were on a Provincial Park Pathway. Hah! Some pathway! This path twisted, dipped, and climbed among young trees and vines, swooped wildly from side to side, ricocheted off hillsides, hopped over fallen trees, and dipped into mud puddles so deep that Joan's rubber boot was immersed almost to overflowing. It would have been easy to get lost except that here and there were hard-to-spot strands of faded fluorescent red tape twisted on twigs to show the path's continued existence and where to go next. Provincial Park Path indeed! Are the people of the northwest really that rugged? Or was that sign a joke? I will never know.

Finally, we reached the beach. More precisely, we caught a glimpse through pine boughs of the beach since it was far below us! It was 50' down a steep slope whose descent or ascent required a firm grasp on a conveniently placed rope (a Provincial Park touch). Several others had just climbed up with help from the rope, but we decided such exertion by us was unjustified by what we could see of the beach. The return on the path was no easier except that Mike and Dee joined us to provide reassuring company, and Joan and I were glad to descend the stairs to the diver's camp. Its big, custom-built aluminum diving boat had come in while we were trekking and the porch, dining room, and showers were filled with husky, friendly young men. At a convenient hose, we washed the path's mud from our boots. It was reluctant to come off.

Out in the cove, I went to the stern of *Duen* and tried my cell phone. There, it sort of worked and I made a very scratchy, broken check-in call to one of our sons (role reversal is in effect now, we check in with our children now instead of the other way around). I was pleased at the connection yet somehow oddly

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uneasy, you are getting close to civilization when a cell call can be made.

Terminus: Since several of our party had to make early starts on our separate ways the next morning, Michael decided to leave God's Pocket and sail on to Port Hardy for the last night aboard. It was a glorious sail, especially for Michael. The smile on his face when Mike and Gloria got every sail pulling wing and wing was wondrous. He said that it was the very first time for *Duen* and Michael that all six sails alternated on opposite sides (it helped that Mike had pushed out the inner jib with the handle of a swab until, finally, the sail filled out).

We slid along quietly on a dying wind, entering Port Hardy in a calm dusk along with a Canadian Coast Guard cutter. We furled our sails and powered in the gathering gloom to a marina. Tim got down into a Zodiac, ready to act as a small tugboat, a bow thruster if necessary, to help *Duen* into its berth, but Michael neatly swung *Duen* around so she pointed out, ready for tomorrow's trip with a load of youngsters. Our lines went ashore. The skipper of a nearby tugboat lounged outside his wheelhouse, critically eyeing Michael's maneuvering. Satisfied that *Duen* would not crunch his tug, the master paid Michael a quiet compliment and disappeared inside.

We then ate dinner, retrieved Wellington boots from under the bulwarks, started packing bags, and used Michael's cell phone to make sure rental cars would appear next morning. Our wonderful trip was over and 18 eager schoolchildren were somewhere nearby, waiting for our departure. As we walked ashore the next morning, Joan spotted an otter scuttling along in typical humped-back otter style on a nearby rubble stone embankment, right there in the middle of Port Hardy. It was our last sighting of the region's wildlife.

Postscripts: The winter after our cruise, Michael ripped out the after cabin and replaced it with a larger version that holds all the passengers during bad weather while allowing them a view of the scenery passing by. Re-

ports are that it works like a charm, looks right, and seems to have been there for years.

Shortly after our return to the States, I sent a photo of *Duen* under sail to Peter Spectre for his "On the Waterfront" column in *WoodenBoat* magazine and asked him to ask *WoodenBoat*'s readers to decide what *Duen*'s rig is. He published the photo but turned the tables by asking me to receive the votes. Over the next few months, I received letters, one from a California prison, another from Australia! (It would seem that *WoodenBoat* is read worldwide.) The final vote tally was evenly split between ketch and schooner (with some whimsical variations tossed in). But Peter published a thoughtful letter from a Merchant Marine Captain, Gregory W. Gooch, who wrote, "I believe the *Duen* to be a ketch because the main topmast appears to be quasi-permanent; because, assuming the photo is square, the sail on the main is larger than that on the mizzen; and because the flying jib/upper jib/outer jib (in my order of preference for name) appears to be a regular part of her suit of sails." His vote tilted the decision about *Duen*'s rig to ketch.

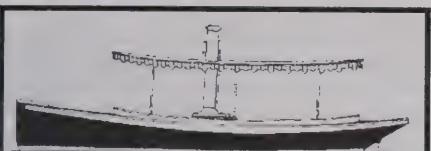
When I mentioned the vote to Mike in an e-mail to the Antipodes, his response was a terse, "of course." So much for simple folk beliefs that a two-masted vessel with a taller aft mast is a schooner! Then Michael put a new twist to the whole subject. On the Hobbis's Christmas card for 2000, his note read, "Interesting verdict on *Duen*'s rig. But since Albert Fletcher built it in 1973, I still refer to it as a 'Fletch.'"

Thank God *Duen* has two masts or else we would still be in that eternal cutter vs. sloop argument.

For those who might want to know more about cruising on *Duen*, write to: *Duen Sailing Adventures, Inc.*, PO Box 398, 1168 Damelart Way, Brentwood Bay, BC, V8M 1R3, Canada. Its website is www.duenadventures.com, or call (free) (888) 922-8822. If a delightful, French-accented female voice answers, you've reached Manon.

Journey's end.





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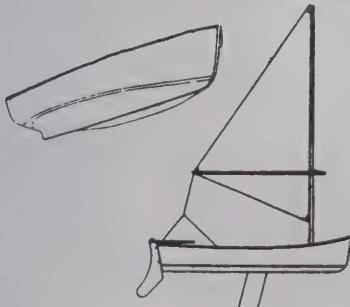
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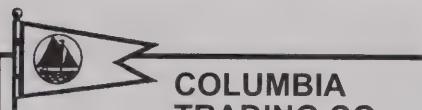


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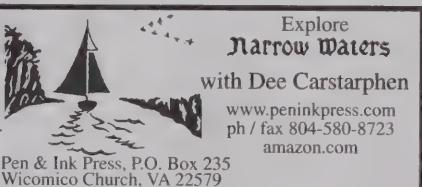


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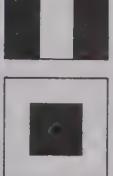
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"There is in a few of us the near pathological need to build, to make in three dimensions that which is only imagined. Adulthood erodes this, especially in a culture that places intellectual achievement above products of the human hand.... From childhood I have always made things, usually out of wood, some useful, some of no earthly value." -Thos. Moser in *Pond Models. Some Simple Thoughts on the Subject of Building and Sailing Them* by M. de Lesseps (1998, Two Bytes Publishing Ltd., Darien, Connecticut)

"Each time we utilize the object we have made, we revisit all its satisfactions. The sen-

Model Boat Dreaming

By Sharon Brown

sation goes far beyond pride to the very well-springs of human identity." -Gilbert M. Grosvenor in *The Craftsman in America*, by C. Anderson, et al (1975, Special Publications Division, National Geographic Society, Washington, D.C.)

"It has been said that the younger we are,



On the last day of the 1999 Boathouse season, two young girls exit equipped for adventure (Sharon Brown Photograph).

Susannah Frew maneuvers Skye, the Pete Culler designed Butthead Skiff, while crew Marsha and Ben Collard supervise the tow of the dory built by Bob Watt (Sharon Brown Photograph).



the closer we are to primitive instincts. ... From the shingle and grape leaf boat, through the various stages of logs, paddled laboriously with sticks and branches, the small boy progresses to the real sailboat satisfying the innermost longings of his soul." -P. C. Long in *Sailor's Progress* by Frederick J. Steinhardt (1931, The Dial Press, New York)

As a child, I was fascinated by the classic we read in school titled *Paddle-to-the-Sea*. The book, illustrated and written by Holling Clancy Holling, describes the adventures of a model canoe. A young Canadian boy whittles a piece of pine into a foot long copy of his father's birchbark canoe complete with paddle person. On the bottom he carves, "Please put me back in water I am paddle-to-the-sea." It is a generously illustrated and vividly written story of a young boy's dream of his Paddle Person released by the Sun Spirit on a long journey through the Great Lakes to the sea from its perch on a hillside snow bank behind his house.

I was enthralled by model boats and had use of my father's canoe. Holling's detailed color plates fueled my own daydreams. Laying on the float peering into the water I was absorbed by my fleet dancing in the wavelets at the end of knotted strings. My inlet was also connected to the ocean, but I lacked the cour-

Kyle Fast, cradles a Bob Watt model he received upon attending John Gardner's 89th birthday cake cutting at Mystic Seaport's Gray Boat Shop, since re-named the John Gardner Boat Shop (Sharon Brown Photograph).



age to liberate my creations. Paddle-to-the-Sea had a much longer, wilder journey through the seasons escaping from one peril to another, than any of my models.

We didn't have pine, and Saturdays I sat in the Hudson's Bay store at the foot of Chief Mungo Martin who carved totems for tourists and went home to pester my father for yellow cedar.

I straddled a rough sawn 6" x 6" red cedar fence post resting across two sawhorses. My feet not touching the basement floor I struggled with a handsaw to shape a pointed bow. Repeatedly the saw jumped from what became a jagged entry for my "ocean liner", precluding any record crossings of the Pacific. Thwarted, and oblivious of the meaning, I learned to swear using words I'd heard adults utter in frustration. To no avail, as nothing except determined perseverance could force the saw to cut through the clear, aromatic red post. Sawdust adhered to my socks and coated my shoes as I stubbornly hacked away. Weeks later on a Sunday at the beach I eagerly anticipated the launch of my painted liner, a wedding cake of tiers held under arm. With a big ball of knotted string in hand, I waded out into the sand flats overlain with a gentle on-shore wave pattern and laid her carefully in the water. "Launched!", I declared. No matter what I did, it was evident she was a failure, she needed external ballast to keep her from a catastrophic list, ultimate flop, and occasional indignant turtle. None of my previous models of lesser structure had required mastering this concept of stability.

I don't recall what happened to the ocean liner, her fate unlike that of another model, the boat I repeatedly begged my father to make. Finally, he relented, and spent part of a Saturday morning carefully carving a hull and sail from red cedar. I was delighted, excited by the prospect of sailing this exotic model.

Sam Waitzman, visiting from London, England, runs trials of his new Bob Watt model in the railway slip (Sharon Brown Photograph).

We went down to the beach and he leaned over to put her in the water. She sat upright, gently rocking in the waves and gradually started to move, the wind against her sail, she cut a vee through the water and headed out across the inlet. I stood in disbelief as I watched her go. My father had no intention of retrieving her. I was rooted, sniffling, long after he turned back to his chores. In all my criss-crossings of the inlet by canoe, I never saw that sweet cedar model again.

Young children behave as thirsty sponges, imprinting events and raw emotion with complete absorption. They are without reservation, barriers or filters. Childhood models often have a lasting impression. Their details may linger and haunt us, while we may not remember much of what we did yesterday.

I have vivid images of days spent as a young girl in Walker's shop on Portage Inlet. I am standing at the bench alongside the ways. The sunlight is slanting in under and through the chinks in the full height planked doors. A rat skitters across the tideline, and startled mallards scrounging in the light dappled intertidal squawk. I turn back to my task at hand on the bench. I am struggling to control the chisel, to hold it in place with my left hand, against the line I have drawn for what will pass as a cockpit, and with my right hand bring the hammer back and pound again on the handle's end. I have two thoughts in mind. Don't damage the end of the wooden chisel handle. Don't cut myself. A cut would be difficult to hide from my parents or my mentor, Oscar, working behind me, out of sight within the hull of a new fishing troller, and would bring an end to these elicit moments. A damaged handle would have the same outcome. Both a distraction from executing the details of the deck layout I created in my dreams the night before.

I had one large doll which my Grand



In a Mystic storefront offering of old-fashioned saccharin realism or universal paradigm, a young girl tends a sailing model from the shore (Sharon Brown Photograph).



Proving that some model boats never have to hit the water, Katie Morrow cracks up after cranking up the boat merry-go-round which volunteer Bob Watt built (Sharon Brown Photograph).





Sailing models like this were made at Pine Island Camp in the Belgrade Lakes by campers in the workshop that John Gardner supervised (Pine Island Camp Collection).

mother and Mother alternately clothed anew each Christmas, and I had many little boats which I made. I dreamed about them at night, and I can still recall the changes in the cockpits I imagined and then did my best to replicate. Each morning, after fisherman and boat carpenter Oscar Ludvickson handed me the hull outline he free handed at the bandsaw from a 2" x 8" fir or cedar plank, I set to work. That which turns us on as children often revisits later in life. We turn back to the things that brought us joy or peace whether it be trains, (Great Trains of All Time, by Freeman Hubbard, published by Grosset & Dunlap, New York in 1962), or drawing (Bill Peet, An Autobiography, by Bill Peet, published by Houghton Mifflin Co., Boston in 1989), or boats. And often, as children when we were fascinated by or absorbed in some activity, it

took our complete concentration, it was a form of meditation.

In that compartment of the brain where visual memories are stored, the childhood memories of Bill Peet were filled with pigs, those of Freeman Hubbard were filled with trains, while mine were filled with the water and boats. Our unfettered youth.

When so much of modern life is passive and vicarious, building a model boat is tactile, satisfying and harkens back to our grandparents' time, not so long ago, when lives were replete with physical activity, and everything was handmade. It speaks of an era when skill and craft were understood, that anything worth doing required learning and time for repetition, and was often taught by someone older, someone who had spent a lifetime or so becoming proficient. It involves a personal freedom that few recognize today and yields a sense of accomplishment possible without prohibitive investment of finances. You can build model boats out of wood, paper, or whatever, even a zucchini, as demonstrated by a Shipyard Paint Shop persona at the last Messerschmitt Memorial Model Boat Regatta of models racing against the clock across the Mystic River.

At the dinner table I shared my memories with John Gardner who as a young boy, made model boats to sail across the St. Croix River toward relatives on the Canadian shore. Later, he supervised the making of model sailboats by summer campers at Pine Island Camp on Great Pond, largest of Maine's Belgrade Lakes. Hired by the camp founder and director, Dr. Eugene L. Swan, John was workshop counselor from 1929 through 1936 (1937). He took over the program set up by Dr. Swan's protégé, Jim Irwin, a teacher in the manual arts department of the New York public school system. The boys built a variety of small wooden boats, finished them up with flat automobile paint, carefully applied with camel hair brushes and over coated in varnish. They were raced at the end of the season. Some had automatic mechanisms for controlling the tiller



Sam Waitzman's model boat flotilla lined up in the basement of his London home, much like Shipyard volunteer Bob Watt's workbench over the years. Sam's fleet includes a model of the Titanic, executed in papier mache (Mimi Waitzman Photograph).

and they sailed into the wind and across the lake. Later, John designed the models. He bought the lumber, and got out the blocks using hand tools as there was no power on the island. One year he supervised the construction of over 40 models, and paid his mother to make the sails. It's no surprise that the championships held each summer were highly competitive among the campers.

Bob Watt of Mystic died in September of 2000 at the age of 82. Bob made the model boats that we give to young Mystic Seaport Boat-house visitors. In addition to his drafting work for the Documentation Shop, he designed model boats, cut out the pine pieces assembled by children at the John Gardner Small Craft Workshop, and made wooden toys for the Children's Museum. Bob volunteered in the Shipyard Department often working five days a week and in 1999 he received an award for donating over 11,000 hours, an outstanding achievement.

Our Boathouse tradition of giving Bob Watt models to children developed from the stock overflow from his other museum commitments. The reaction to the first half dozen that we gave to delighted children was so rewarding that we asked Bob for more and did it again. Now, if we have any on hand, we give them to visiting children, summer or winter. Sometimes they are given in recognition of a feat, like rowing a butthead for example, and sometimes an accomplishment is not necessary. Children are usually incredulous that there are no strings attached and they seldom need parental prodding to acknowledge their gratitude.

Bryan Hammond in the good little skiff, Waldo Howland, keeps watch on Bill Ames' pre-depression schooner model of Commander MacMillan's Bowdoin. Made of hard rubber, the Bowdoin is a fast model which Bill has owned since he was a young boy. It is an Acushnet Miniature Yacht, built by the Acushnet Process Co., New Bedford, Massachusetts (Sharon Brown Photograph).



Bob used to make light of it all teasing me with gruff remarks, but he always rallied when I would share with him anecdotes about the excited recipients of his models. "That's what it's all about," he would say. "That's why we make the boats." Despite the fact I sent him photographs of children showing off their models and always made a point to thank him, I don't think his family is aware of the significance of the work that he so humbly did.

He was a character. Calling on his skills, developed over 47 years employed as a mechanical draughtsman for the International Paper Co., he produced a two sheet set of plans for the model, Tug-a-lug. And yet if I asked him to make a few boats for The Boathouse he would always ask me what kind of boat I wanted and remind me that he didn't know anything about boats. This despite the hundreds he had already made. It would be like the beginning each time.

Few children were privileged to see Bob's bench in the main shop of Shipyard where amongst all the shippy projects of the shipwrights there was often a full top of boats assembled row by row waiting for pick up. Rows of sailboats, and rows of those without masts, and a shorter back row of elaborate creations of tugs, fishing boats, and cruisers. And for months after his death, although the shipwrights claimed his bench space, there remained a large model of a ship's backbone, in frame. It sat there through work and meetings, silent testimony to the work Bob did selflessly for so many children who never met him, and the shipwrights unaware except for those who cajoled a hull for their own children.

Evidence of Bob's handiwork abounds in The Boathouse and in the imaginations of many young visitors.

One such visitor is Sam Waitzman. He covets the Bob Watt models he has received during winter visits to Mystic Seaport and The Boathouse. These models which remain part of his everyday play form part of Sam's fleet in London, England. One of his models became the Mystic Rainbow Warrior when he used water based paints to coat the raw wood hull. "We were all saddened to hear of Bob Watt's death," wrote his mom, Mimi. "It is hard to convey and impossible to quantify how much pleasure he has given through his models—and what enthusiasm he has inspired in youngsters and oldsters alike. Sam's 'Watt' models are very much a part of our everyday life: they get taken to school for show and tell, they form part of Sam's rich imaginative life both on dry land and in the bath or when we visit the seaside."

The presence of Bob Watt models in The Boathouse precipitates model boat reminiscing and discussion.

Growing up as a boy in Fairhaven, Massachusetts there were three sailing models of similar construction in Bill Ames' house. All three were made by his uncle's company, the Acushnet Process Company, in the early 1920's. Philip "Skipper" Young, an avid sailor all his life, devised a method of making a hollow hard rubber toy boat. The hull, about 1/8" thick, was lighter than wooden models. When ballasted properly they sailed circles around the competition. They were marketed in New York by H. E. Boucher, a world wide distributor of models of all kinds (see also, "Sailing Small" by Ben Fuller, in The Log of Mystic Seaport 42(1), 1990). Bill was not allowed to take the model of the Bowdoin—named for



Early Sunday morning at the John Gardner Small Craft Workshop three children's models wait on young hands to set them sailing for another day (Sharon Brown Photograph).

Commander Donald B. MacMillan's famous Arctic schooner—out of its box. But at age eight or nine he was allowed to play with the other two, both sloop rigged: the Skipper, a one-foot Marconi rigged sloop, and a larger, two-foot model, the Captain which he tried to convert to a yawl. Bill recalls his father setting the smaller Skipper off from their "beach house on the Cape" in Falmouth with a note

tied to it and a reward offered for its return. It sailed across Buzzards Bay on a southwesterly and was recovered in Scituate Neck a distance of seven miles. Bill lost track of the Captain and to his chagrin, when he put the Skipper in his cellar window because "it looked good there," it swelled up like a balloon and self destructed, but he still sails the Bowdoin which sits on its stand in his office

Bill Sauerbrey's dory model is often used in the John Gardner Boat Shop to illustrate the sprit rig. To facilitate recovery, it raced in staff regattas with a cork float to indicate its whereabouts upon capsize (Sharon Brown Photograph).





Youngsters take turns writing their thank you's in The Boathouse Log for Bob Watt models in awaiting departure and ready to sail (Sharon Brown Photograph).

At the water's edge Lois Ware and Abigail Jordan discuss sail trim while a young mother tends a brave young sailor (Sharon Brown Photograph).



Drew Jordan proudly holds up two of the models he built at the John Gardner Small Craft Workshop (Sharon Brown Photograph).

overlooking the Mystic River. When I told Bill that I was writing about childhood model boats and their lasting impact, he replied, "That's right. They sure do." In Bill's case they were harbingers of a lifetime spent on the water in boats of varying design.

Boathouse volunteer Ralph Eldridge of Rhode Island, built his first model when he was ten, with his friend Eddie Sweeney under the direction of Eddie's Grandpa Moe, a fisherman-farmer. Years later Ralph came to appreciate that the hull shape of his model boat which he pushed and pulled through the water at the edge of False Harbour, Nova Scotia, was that of a rumrunner. When he was fourteen he built a model of the Flying Cloud for his father, who thought so highly of it he in turn gave it to his grandson, Ralph's son, Ralph, who spends his summers on the water, has modeled on and off ever since.

In his youth, Bob Hopkins had access to a fine hollow, planked up model, a discard of careless people of wealth. The rudder and the rig were repaired and "It hung around my Aunt and Uncle's house until my Uncle died and before I could move, my aunt threw it out," he lamented. "That was 50 years ago and I still haven't gotten over the loss."

As a boy, Boathouse volunteer, Jonathan Lovejoy carved a boat model from two pieces of 2" x 8" pine. He used a toy keel and a lead sinker for ballast and sailed it off the beach. From a rowboat he monitored its course, and once to his delight he followed it clear across Norwalk Harbor, a distance of two miles. He still treasures three models: a ketch-rigged Brittany fishing vessel, a plank on frame lobster boat, and an English Harbor Tug named the Hazel L. in honor of his mother who loved tugboats. "I feel badly that kids build plastic models. Model making is great. You learn all about the construction." He added, "Of course I made all kinds of the pointed pieces of wood models."

Similar, perhaps in design, to the balsa wood model boats that his Boathouse colleague Vickie Smith made as a Bluebird Campfire Girl, and sailed on Oregon streams. While on the other coast, her contemporary Ernie Treff, who grew up in New York City, sailed models on the East River.

Ned Perkins who lived across the street from Redd's Pond in Marblehead and worked summers as a teenager at the Marblehead Transportation Company, still has three models, one of which he acquired in his youth by taking third place in a model race on Redd's Pond. A double ender, it was built and designed by Roy Clough, a one time commodore of the Marblehead Model Yacht Club. Known to some neighborhood children for his penchant for keeping baseballs that landed in his yard, Clough designed the famous "Marblehead" or "M" Class model using a barn door for a drawing table. It was later adopted as an official class of the Model Yacht Racing Association of America (more at <http://www.swcp.com/usvmyg/mclass.htm>).

Peter Littlefield recalls the V25 he made from hollowed lifts, with reverse tiller and rubber band, and new sails built by his sister which he raced at Camp Viking on Pleasant Bay in East Orleans. His dad, Prescott, who was raised in Salem across from Dion's Yacht Yard, took black and white film of the Marblehead Model Yacht races on Redds Pond.

Illustrator Sam Manning whose classic cardboard dory gained fame in the pages of

WoodenBoat has been known to make cardboard model boats in his booth at the WoodenBoat Show. Sam sent a shingle model in a padded mailer with instructions written on the inside bag on how to rig the mast and single, clear plastic square sail. Much like the classic ship in a bottle, it was a model in a bag. Between river outings it rests on a computer monitor in the office.

If you talk about model boats, people share their experiences. Models are as magnets, attracting interest. The epicenter of adulation is perhaps the New York Yacht Club Model Room. Recently featured in Herb McCormick's Boating Report in the Sunday NY Times, he wrote, "There is a place in midtown Manhattan that must be seen to be believed: the Model Room of the New York Yacht Club on West 44th Street. ...with its collection of about 1,200 half models, the Model Room is a shrine to yacht design and sailboat racing." Com-modore Charlie Dana proclaims, "It's the heart and soul of the club."

Few but the chosen experience in person the awe inspired by the Model Room and while most model boats are not instruments of naval architecture, or subjects of curatorial angst, or candidates for Sotheby's, they are educational, and they are often no less admired and coveted by their owners or builders.

There is a universal urge among children to make things that float. To make a boat. As John Gardner so often demonstrated, there is a human need to use our hands, and create something. The satisfaction that follows, the pride of accomplishment, and the learned skills are all elemental to self image.

Lois Ware, a volunteer teacher in the boat shop at the Maritime Aquarium at Norwalk, works with children in the "I Have a Dream Program" who build free form model boats which they conceive, design, and assemble. The children, many of whom have never been in a boat, wait in line at the drill press and band saw for adults to make the cut or drill the correct hole for their creations, and eagerly apply their imagination.

You could do worse than help a child build a model boat or make one yourself. It will attract interest and perhaps inspire someone to become involved in the aquatic environment. At best it will keep you and the recipient free of electronic burdens for a brief period. You may reawaken your creativity.



Rob Pittaway, Anne Johnson, Winslow Behney and the author in a toast to model maker Bob Watt (Sharon Brown Photograph).

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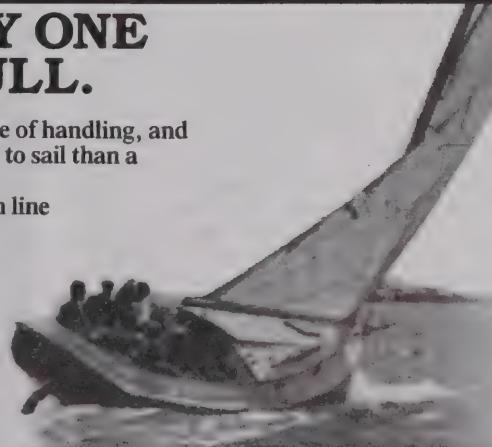
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Fine entry.

I don't think I know all about small boat design quite yet, but I do have a few strong opinions about some little boats that I have had some experience with, and I have condensed a few of those opinions down as far as I can, so far. I would keep on working on that condensation, but every time I go through this thing to cut a little more superfluous misinformation out, damned if it don't gain about 2000 more words so, I better go with what I got right now.

In my opinion, a small boat is the pinnacle of all the achievements of mankind, ranks even higher than the white plastic bucket and the airplane, and those beat the invention of agriculture, automobiles, and government, hands-down, and boat designers or builders ought to think about their place in the long evolutionary line and do the best they can to continue the improvement of that ancient progression. As for me, the most important things about a small boat are that it needs to be very light, very strong, and very seaworthy. I am keen on efficiency, too, and I think about those things all the time.

If you have to have a heavy boat, it might as well be big, if you have a weak boat, it is soon going to bust, and if you want to find out about unseaworthy boats, put on your PFD, get your handheld waterproof VHF and borrow a catamaran. There are all sorts of things you can do to make boats lighter, stronger, and more seaworthy, and it takes a lot to do it right.

But I think it is worth it if you have any use for a good boat. The proof to me (and that's proof enough) of the importance of those things is when I put too much load in my own light boat, it just doesn't act right anymore, and when the boat you worked on for so long and hard comes apart on you (notice I said "you") because it was built flimsy, it is pitiful and, if it drowns you because it is not a good sea boat, that could be pitiful, too, depending on who you are.

I am not going to go into anything about multi-hulls or any other kinds of boats that jump very far outside of the ancient progres-

Small Boat Design

By Robb White

sion, because I don't know anything about them except that they all seem to be heavier than normal boats for the same capability and, as such, do not interest me, and besides, the ones I have seen seem to stay either on the beach banked up with sand or on the trailer back behind the carport with the barbecue rig, or, if they are in the water, they seem to spend a lot of time upside down despite the spectacularly heroic struggling of their crews.

I am not saying that a radical departure in an effort to improve the ancient line is not worth the risk, what I mean is that a half-assed, cheap-built, heavy, useless, unseaworthy, radical departure ain't no improvement to be doing the self congratulatory dance over, not even if you sell jillions of them to jillions of doofuses through infomercials on TV and get to be just as rich and famous as me, so there. I'll just tell you what I found out within the narrow field of my experience trying to think of some way to improve on the work of the old masters.

My experience has mostly been with the traditional boats of the Western Hemisphere, but there are plenty of ancient, very successful lineages from the other side, too, that fascinate me, like proas. One of my sons has been dreaming about them all his life, and I bet one of these days an extremely light and strong one of those will fly across the water of Apalachee Bay. It is not that there is any genius at work here, it is just that with epoxy and fiberglass it is possible to build a wood boat so light and strong that even if the model is not improved, the end result is a better boat than anything ever built in the world.

The best way to make a boat light and strong is to make sure that there are no flat or straight places in the hull. If you make a boat from flat panels like plywood or aluminum, you will have to use thicker stuff than if you build the boat out of curved pieces so that the whole hull (including the transom) is curved

every way you look at it. There are degrees of this. A multi-chined plywood boat can be lighter than a flat-bottomed plywood boat (or the cursed "semi 'v,'" but more on that later) and a lapstrake plywood boat can be even lighter, but no matter how narrow the planking, each plank will be flat across and the boat won't be as strong as if those planks curved in all three dimensions. But the worst thing about a plywood boat is that it is made out of plywood. I don't want to turpentine nobody's tail, but I believe the term "marine plywood" is an oxymoron and the reason for the disappearance of such as Lyman and Thompson.

Given the miserable condition of the supply of traditional boatbuilding wood because of the squandering ways of the past (I just noticed a new condominium as big as a big city hospital down at the Gulf, all sided in A#1 Atlantic white cedar, sloppy job, too), I think the best way for an amateur to build a top-notch boat is strip-planked. I'll give some examples of what I mean. Mac McCarthy's Wee Lassie boats weigh a little less than 30 pounds and are so strong that they are virtually unbustable. Even with those narrow strips it is easy to see on a finished boat that each one of them has been shaped concave on the inside and convex on the outside.

I have a friend who has a tiny little flat-bottomed tender. The boat is so little because he has to drag it about half a mile on the flats when he comes in from his mooring and haul it up on the dock in town when he goes to get groceries. I told him that he needs to buy a Mac McCarthy kit and build him a Wee Lassie, he'd probably save enough on ibuprophen to pay for it. His boat weighs about 60 pounds and he has to re-nail the bottom at the chines every time his 10-year-old-son gets through with it, and it still leaks.

Light and strong are relatively easy to figure out, sort of an engineering kind of a thing, but dealing with the water is a little bit more abstract. A good boat has to deal with the water under the circumstances of its use in a way that is safe and comfortable, sea wor-

thy and sea kindly. Luckily, strong, light convexity of shape works well in the water. The best way to prove that is to play with your hand when you are swimming. If you try to splash with the back of your hand, shaped in a convex way, it doesn't throw water nearly as well as if you try to peel it off the surface with the palm, either held flat or slightly concave. All the children in our family learned just exactly the optimum angle and shape to hold the palm of the hand to throw a sharply focused shot of water at such high velocity that another kid who was hit could feel, not only the force of the shot sting the skin of his face, but the lid lift alarmingly far from his eyeball. I, being the most expert at this, could actually cripple horseflies sitting on the side of the boat I was swimming around, then I would catch them and put them in my mouth and blow them into one of my sister's (or my future wife's) ears.

The angle I held my hand is exactly the same angle sheet plywood or aluminum forces the bow of a "semi 'v'" boat into. One thing you (notice I said...) can do with sheet stock to avoid this is to keep the chine very low on the stem so there won't be enough deadrise in the bow to throw the water very high, but then the boat will pound, or you (notice...) can rake the stem so that that wonderful angle is reached so far back that the boat and you are gone before it can blow back on you, which is the way these big-deal deep 'v' jobs do it. But because of all that cutaway, you have to have a big deal boat to give you enough waterline length so the boat can reach planing speed before it reaches displacement speed.

Or the boat can be straight-up flat-bottomed. You can get away with a hell of a lot like that if you can stand the pounding. A flat-bottomed boat has no place where the angle of attack is like my hand in the "optimum splash to windward then blow back on you" kind of situation. Philip Bolger discovered this a long time ago. If you want a dry boat as seaworthy as a foam insulated refrigerator, vertical sides and a flat bottom are the ticket. Waves of water striking a sea wall don't make nearly the fuss that one might expect considering the

Old "satisfactory," sharp deadrise, plank keel, very abrupt hollow entry, full bow. Designer toes.



way they do on the adjacent slope of the beach, and the reason is simple.

There is actually very little forward motion of the molecules of water in non-breaking waves. It is only if the natural tendency of the water is messed with that it splashes up and wets somebody, like if somebody moves through it preceeded by a splashy shape to windward. There is a lot more leeway in the design of big boats that have three or four feet of boat sticking up (in our opinion, too much freeboard catches the wind in a useless way, dangerous in a very light boat and is ugly) to hide behind, but a small boat has to be just right to be just right.

Which is all a compromise. A flat-sided, flat-bottomed little skiff is the simplest example. If it has no flare-up by the bow, it will be good and dry (I know that sounds backwards, but no amount of flare will shelter you if the bow of the boat is less than 30" high) because there won't be any place on the bow with the optimum, horsefly crippling, splashing angle if the flat bottom of the boat runs about level, with very little rocker like Bolger does it.

But, if the bottom is too wide up forward, it will pound even at rowing or displacement sailing speed if the chop it encounters is steep enough. The trick of the compromise is to make the flat bottom of the bow narrow enough to cut out some of that pounding without losing enough displacement up there to make the boat fail to rise to the waves with the weight it is supposed to carry. You can flare the sides like a dory and get a little additional lift and still have a narrow bottom, but then you begin to approach a splashy shape. Sometimes it is worth it in the situation of a particular compromise, but there is another problem with flat panel boats.

If you want flare in a stem bowed, flat-sided boat (as opposed to pram bowed, which you just think you know what wet is if you have never driven a little 45° raked butthead into a stiff head sea, a Bolger-style vertical butthead is a much better boat), you must rake the stem like a dory. That will get the splashy part back under there a little bit, too, and if you rake the stem enough, you can get the flat bottom so that it runs in the water under most conditions, and that will cut down on the pounding. But you lose so much waterline length from all that rake that it makes the boat slow for its overall size when it is running at displacement speeds, and a boat like that will throw water all over you when it gets so rough that the flat flare meets the water just right, way up high.

There is a way to fudge a little further with a flat-bottomed boat so the sides don't throw water so bad, and that is to make the sides round like a Swampscott dory. Like I said, a convex surface sort of foams its way through the water instead of making a focused splash. I think that, because of the curvature, there is not enough of the surface meeting the water at the right (wrong) angle to splash much. Say the optimum splashing angle is about 45°, a tangent to the radius of the circle of the bow is only going to be right (wrong) at just a little place on the surface of the boat. A round-sided dory is an elegant thing and hard to build compared to a regular old slab-sided, codfishing-style job, and there are some who think that if you are going to go to all that trouble, you might as well go whole hog and do the best you can to build all the compro-

mises just to suit the duty and throw economy to the winds and just build a round bilged boat.

In my opinion, the best kind of bow for a small sea boat is wide at the top, convex on the sides, and abruptly hollow at the bottom, with a very sharp, nearly vertical, almost straight stem, and that's a tall order. Such a thing is even hard to carve on a basswood model. I have been working on it all my life and still don't think I have got it exactly right yet. I ain't the first man to make this discovery either. You can see where people were struggling to make a bow like that thousands of years ago. Down where I first learned to yearn to get it right, the old man I apprenticed to used to carve the garboard strakes out of a big, thick chunk of Caribbean pine (*P. elliott var. densa*, now almost all gone in boat lumber sized stands on the Greater Antilles and the Bahamas, still some big trees in Central America I am told). After he got those garboards on the boat, it was easy planking from then on. It is the same with me now, takes longer to get the garboards right than it does to plank the whole rest of the boat.

The reason serious boatbuilders go to all that trouble is not just because such a bow is dry and gives the boat the most waterline length but because that shape is most seaworthy. It will rise when you are going into them and won't root, yaw, broach, and drown when you are running down with them. The ability to rise is easy to understand, that's just the displacement of a big bow working for you, but I have been thinking about that rooting for a long time. What I now think causes rooting is when the bow of the boat fails to either penetrate or ride over the back of a wave that the boat is outrunning.

What happens is that the bow slows down before the stern can figure out what is going on, and the boat yaws around sideways in the trough and either turns over or catches all the water in the wave that was following you. It doesn't take long in a broaching situation like that before everybody is in the water, and it happens all the time around inlets where people aren't paying attention after they made a nice downwind run in from outside with the sea breeze of the afternoon and then hit the inlet against a falling tide where the waves are big enough to find the rooting place on the bow of the boat. Any boat will root when it hits something big enough, hard enough, and that is a quick cure for the stupifying effects of too much beer and too much sun when your dumb ass hits that cold, swift water doing about 35.

Minimizing rooting is a complicated thing. There seem to be three ways to do it. One way is to make the boat so that it will run over the backs of most waves without slowing down. Oddly enough, one of these butt-headed aluminum "honkey drownders" will do that if it has a long rake and a pretty high bow transom, until it runs into a wave that is pretty high, too, then that's when the boat lives up to its name.

These big, wide, heavy, butt-headed fiberglass boats named after something *Carolina* or other (which, I have been to sea around that part of the coast, and man, that's the Atlantic Ocean, I bet you don't see too many of them tubs pounding around out there very far from the inlet) are pretty foolproof in a rooting situation, because when it gets rough enough for such a thing to root, the boat has already beat all its occupants into complete

submission and that makes them slow down.

That's the second way to minimize rooting, you can slow down below the speed of the waves. Most any boat will stay with you in very rough water if you just ease along and don't have such a big motor that the transom can't rise fast enough. Small boats that get washed off the island where I live during hurricanes always wind up so far up in the mainland marsh somewhere that it takes an airplane to find them, and any water in them is fresh from the rain.

During Hurricane Opal in '95, there was no rain and the 14' skiff (not mine, it was chained to the pilings of the house) that we finally found was bone dry in the bilges, engine still dry. If the gas tank hadn't been blown away we could have ridden back home in it. My wife and I watched a doorless refrigerator wash up on our beach during a storm that read over 60 knots on the machine for seven hours (March storm of '93). It was riding high, compressor end acting as the stern, until it hit the breakers, then it tumbled and flipped up in the dunes and skins up a bunch of trees. I believe that if you are in a little boat when it gets real rough, you are a lot better off to stay out in the water than you are to come ashore like that.

The best way for a boat to avoid most rooting situations is to manage to penetrate the back of the wave without either slowing down enough for the stern to want to catch up but we (notice I said "we") don't want it to keep right on penetrating until it gets to the bottom of the ocean. A sea kayak will handle any wave it can catch without rooting, of course, it might penetrate all the way up to the place where you are sticking up out of that little hole. I like a full, convex bow with a very sharp, almost straight, almost vertical stem and a very abrupt hollow in the garboards at the front. A bow like that will compromise around and sort of foam its way through the backs of pretty big waves without either rooting or diving.

Like I said, such a bow is hard to build. What you have to do is come up from the keel with a very abrupt hollow entry. Big boats can



Tumble home, very abrupt hollow forefoot, full bow, straight stem.

afford to get that fullness started later because they have so much room to work with. They can carry the hollow way up like a lobster boat and still be kind of dry because there is so much boat sticking up there to hide behind from that sheet of green water that you see coming off the bow of such as that, but a boat with about 27" worth of bow (that seems to be the sheer height at the stem of most of my boats) has to get out of the hollow and into the convex very low down on the cutwater or it will be wet.

Not only is that very abrupt, hollow forefoot necessary to bring the garboard strakes from the low deadrise of the middle of the boat to the vertical stem, but I think it helps catch

the water and hold the bow straight when it hits a wave sort of obliquely, also looks good to me as do lots of shapes in which the form follows the natural function, like the wing of a bird or a propeller. Even some boats that are built simply and can't actually have a forefoot like that sort of copy it, like the chine-built inboard speedboats of the first half of this century. The very shallow deadrise, plywood oyster skiffs of Apalachee Bay have a little solid wood piece fitted onto the bottom of the forefoot (I believe originated by a fine old boatbuilder named Mr. Joe Lolly and called a "gripe") to sort of keep them from skidding off to the side and dumping all them oysters back into the pollution.

I am going to get off the bow and to the rest of the boat before long, but I got to go into the shop and mess around right now. I'm getting the ennui.

(To Be Continued)

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Fundamentals of boat restoration: surveying your wooden boat, plank replacement, joinery, laminated and steam bent rib/frame replacement plus condensed basic refinishing. *Mike Mahoney, Instructor. Fee: \$150*

BUILDING A ST. LAWRENCE LADIES SKIFF - PART II APRIL 14TH - 21ST, 2001

Following Part I, the Ladies Skiff construction will continue with fitting out the decks, seats, and installing floor boards. Completing the finish work to the point where the skiff can be launched at week's end. The boat will be added to the Museum's livery. *Dan Sutherland, Instructor. Fee: \$450*

TAKING THE LINES OFF A TRADITIONAL ST. LAWRENCE SAILING SKIFF MAY 5TH & 6TH, 2001

A two-day class where students will be determining the basic hull shape and taking scantlings of a traditional St. Lawrence Sailing Skiff from the Museum's permanent collection and built by Miller of Clayton, New York. *Everett Smith, Instructor. Fee: \$100*

RESTORATION & REFINISHING JUNE 9TH & 10TH, 2001 - OCTOBER 20TH & 21ST, 2001 - FEBRUARY 9TH & 10TH, 2002

Fundamentals of wooden boat restoration: surveying your wooden boat, laminated and steam bent rib replacement, fastening, traditional refinishing. The class is designed as a demonstration and lecture course. *Mike Mahoney, Instructor. Fee: \$125*



CANVAS CANOE REPAIR OR RESTORATION JUNE 2ND, 2001

Replacing ribs and preparing a canvas to the ready point of receiving new canvas. Demonstration in the preparation of canvassing and filling a wood canvas canoe. Students may bring their own canoe to be assessed and worked on in class (depending on the number of boats brought in). *John McGreivey, Instructor. Fee: \$100*

CANING / JULY 21ST, 2001

A one-day total hands-on class that explores the basics of caning. The various types of caning and modern materials will be shared. *Jim Hartzell, Instructor. Fee: \$50*

STEAM BENDING / SEPTEMBER 22ND, 2001

A one-day class dedicated to the principles of forming curves. Instruction will include steam bending and laminating, placing ribs in a small boat, and other hands-on opportunities for class participation. *Dan Sutherland, Instructor. Fee: \$100*

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THE BOAT BUILDING SCHOOL STAFF

MIKE MAHONEY

Mike has been involved with the Museum since the mid-eighties. He manages Wooden Boat Specialties in the 1000 Islands.

DAN SUTHERLAND

Dan is a fourth generation boat builder and Antique Boat Show judge. He owns and operates Sutherland Boat & Coach Inc. in Hammondsport, New York.

JOHN McGREIVEY

John owns and operates the McGreivey Canoe Shop in Cato, New York. John has been in the canvas business for over 25 years. He is an authorized canvas repairer for Old Town Canoe.

EVERETT SMITH

Everett owns and operates the Everett Boat Works in Canton, New York. He has been involved with the Museum for over ten years and at one time served as Curator of the Antique Boat Museum.

JIM HARTZELL

Jim has taught classes for the 1000 Islands Craft School and Elderhostels. He is experienced in many areas of weaving, including baskets, rush seating, as well as caning. Jim resides in Sackets Harbor, New York.

This sketch shows a scow, narrow enough that you can paddle it. I built two of those with store-bought lumber, redwood and ply. The sides are just 1' x 10' planks, 1" thick as they are sold in the store "finished." That means that after they are planed they will be a little less than 1" thick and a little less than 1' wide. This is just a rectangular box, the sides shaped as shown. Use two pieces of plank as temporary molds, setting up the sides. You could make the end pieces from plank, too.

The bottoms were made of 3/8" ply. No chine baulks, I nailed the bottom straight into the sides with thin nails after laying a caulking bead of store-bought window-caulking (the cheapest I could find). Everything was oiled first with linseed oil, a la Rabl (*Boatbuilding in your own Backyard*). The boats did not leak, not even after they were stored for a few months in the garage.

I re-enforced this construction by putting angle irons (see drawing) along the chine. This turned out a good precaution as the boys stamped on the bottom fighting sea battles, causing leaks, but no failure. The damage needed only a few good whacks with a hammer to be restored to form. The irons are only fastened to the sides, not the bottom. They were screw-fastened.

Don't forget to fill those screw holes with caulk, or to fill the nail holes after you remove the temporary molds, if you have used

DreamBoats A Kayak-Scow

By Richard Carsen

them.

The coaming, 6" x 1" plank, is fastened from the inside against a frame of 1-1/2" x 1-1/2" of deck beams and longitudinals. Center the headboards fore and aft against the deck beams (don't bother with a crown), then fasten the longitudinals against them and the beams. The cockpit is 5' long. You keep the longitudinals from sagging by lining them up with the bottom of the side coamings. I used 3/8" ply for the fore and aft deck, but plank for the side decks. Decks and sides overhang slightly the sides. Put a bead of caulk between deck and sides and deck, sides and coaming (if you don't know, you buy the caulk in squeeze tubes).

I did put a skeg and rudder on the sailing one, but no leeboards. You could install a Chinese leeboard, which is hung aft and pulls under automatically as shown. I used my single paddle, which meant that sometimes in tacking I had one hand on the rudder, one on the

paddle, and the sheet in my teeth.

The rudder was conventional, but instead of gudgeons and pintles, I sank sturdy eyes in the rudder (in the edge of the center blade, which is held between two cheeks) and the stern. There is a lot of force on a rudder, so use heavy eye bolts. Bury the nuts on the rudder bolts in the center blade before putting on the second cheek (make the hole for the shank of the eye too). For the stern eyes, you need a piece of back-up plank on the inside, so do all this BEFORE YOU PUT THE AFT DECK ON. Stick a stove bolt through the eyes long enough so that the rudder can move up. Make sure that the setting of the eyes allows for that.

The sail was made of 39" ticking (to cover mattresses). It was straight sided with the top yard somewhat slanted. The slats are something like 1-1/2" x 1-1/4". They are on each side of the cloth and through fastened. No sheetlets were used, only a sheet from the boom.

For the mast, fasten a plank at the forward end of the cockpit with the right size hole in it. For the mast step, fasten a plank across the bottom and fasten to the sides. Dig out a hole the size of your mast heel (which can be square and narrower than your mast).

I made the mast up from plank, glued and screwed together three plank strips, 8" long and a good 2" wide. I then shaped the assembly with a small plane, that means countersink your screw heads well. The sail would be about 5' tall, hung about a foot above the coaming.

Pealed branches are the best parrels on your slats, they will slide on your wooden mast. They are usually tied to the slats, you would have to drill some through-holes to do it.

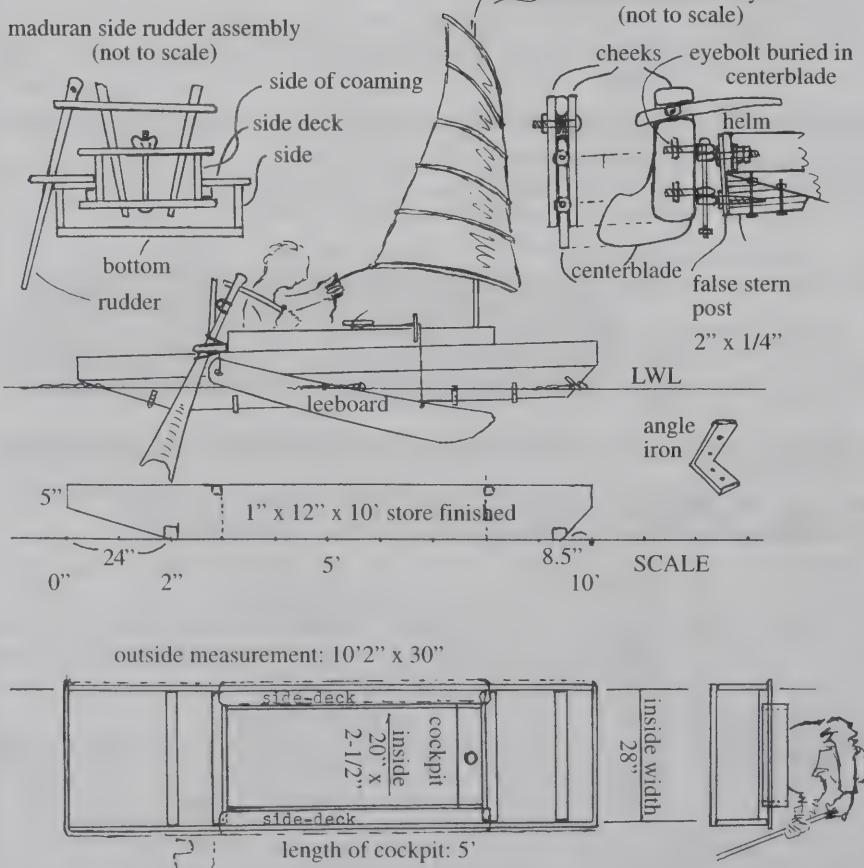
You can also try the maduran rudder as shown. Two uprights are fixed on a sturdy plank, leaning slightly outwards. The bottom ends fit into a block or plank like the mast step. The other plank lies on the deck and overhangs the sides. A cross-bar runs between and across the uprights, and the shaft of the rudder is fastened to the end of this bar. They use a strip of old tire with a rope on each end. One end is tied to the assembly, the rubber wound around the rudder shaft, and then the other end is tied. The shaft then passes through a cut-out in the overhanging plank and is again tied there in the same manner.

The entire assembly is held down in an ingenious manner by some type of clamp across each end of the plank so that the entire thing can be removed. This can be done because their canoes are open. Here the best way, I think, is by fastening a sturdy clamp (with sturdy fastenings) underneath the deck and bringing a short bolt up through it and the assembly plank. A washer with a wing nut, well tightened, will keep everything together.

Of course, you can also put the assembly on the aft end of the coaming, with a counter-piece of plank underneath the coaming and a sturdy bolt up through it and the assembly plank. I have done this with beams on an outrigger and it worked well.

The shape of the rudder oar is as shown, it gradually flattens. Here the blade splayes out, but the end is cut with the pronged look as in the drawing. They use no leeboards, though their sail is far forward. It seems that the deep rudder, especially maybe when fastened at the aft end of the cockpit, produces enough of a leeboard effect. Trials that I have done with models would seem to bear that out.

Kayak-scow





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This boat was sketched in 1963 for Astilleros MYABC in Puerto Pollensa, Mallorca. (Astilleros is "boatbuilders" in Spanish). I was taking a year's busman's holiday as resident designer there, doing odd jobs such as a modern rig for the 72' gaff-topsail Alfred Milne yawl *Concha II*, and a custom cabin layout for one of three Francis Herreshoff-designed 57' ketches they were building (the latter with the blessing of LFH). They were doing beautiful traditional work; it was an advanced course in boat design to work with the late Jose Forteza, master shipwright and sometime carpenter of the four-masted schooner *Juan Sebastian de el Cano*.

Apart from the interesting work, something unexpected was always turning up in the bay in front. There was a neat little cruising sloop flying the blue and white lilies of Quebec, a 50' Choy catamaran, the Giles-designed *Blue Leopard* fresh from her builders, the amazing Italian training ship *Amerigo Vespucci*, and the whole American Sixth Fleet (four carriers, including the new nuclear *Enterprise*, and innumerable cruisers and destroyers at the time). I had the use of a Sunfish sailboard owned by the yard to have a close look at all these wonders, and got to sail some of them, though not *Blue Leopard* or *Enterprise*....

The yard had no dedicated workboat at the time, and I thought of building one that would be somewhat appropriate to the high-end traditional wooden craft they were mostly building. This would be a 30-footer (the plans would have been metric, of course, they had no trouble working to English scales but preferred metric, as anyone does who knows both). She would have had heavy sawn frames of Mallorquin Pine, something like American southern hard pine, planked with African mahogany or possibly iroko, an African timber like dry teak. No plywood would have been

Bolger on Design

Concept for a Boatyard Workboat

30'0" length overall. 9'6" breadth, 3'0" draft

used.

The engine box would have been planked with morticed corners and finished bright. The deck would have been laid iroko, or possibly real Burma teak, with rounded nibs to the covering boards forward and aft in the best old fashion; no fakery, unless you count using a modern elastic and adhesive seam compound to make it really tight.

The bays of Pollensa and Alcudia on the east side of Mallorca are shelving, with shallow flats and sloping beaches. Three-foot draft is actually a little more than would be ideal in some places, but a big prop, 27" diameter, for powerful towing was judged more important. We did cut the forefoot up to the waterline to allow her to nose up to the beaches and also, with her big rudder and fairly deep keel amidships, made for very quick and sharp maneuvering. Those bays can be very rough in easterly wind, and she might occasionally need to tow something around to Palma on the southwest side, so she had to be reasonably able.

Some of her work demanded low freeboard, but we gave her a buoyant, wide-flaring bow and a high-crowned deck not very different from the local small fishing boats. The hard chine is not the way the locals do it, but nobody objected and it fared nicely into a flat run that her big engine, a Barcelona-built Barreiros diesel, might drive a little faster

than a traditional stern shape would allow.

The climate there generally doesn't call for much shelter except from the sun. The awning frame and the frame for the helm dodger would probably have been more elaborate than this sketch indicates, as the yard had the most expert metalworker I've ever come across. He made all the tangs and other metal-work for the big yawl's new rig, and forged accurate copies of Herreshoff anchors as well as the characteristic local grapnel shown in the sketch (by sliding one set of flukes up the shank, they can be swiveled to stow flat).

There was an amazing range of talent in that little provincial town well on its way to becoming a pure tourist trap. Besides the boat carpenters, any of whom could design a good boat as well as build it, and the blacksmiths and sparmakers that Nevins would have been glad to hire, there was a brilliant local sculptor who did not think it was demeaning to do stern decoration, trailboards, and figureheads. All these people no doubt found better-paying work as Spain began to prosper. I hear the blacksmith made a fortune in real estate. The workboat was never built and the yard eventually switched to fiberglass.



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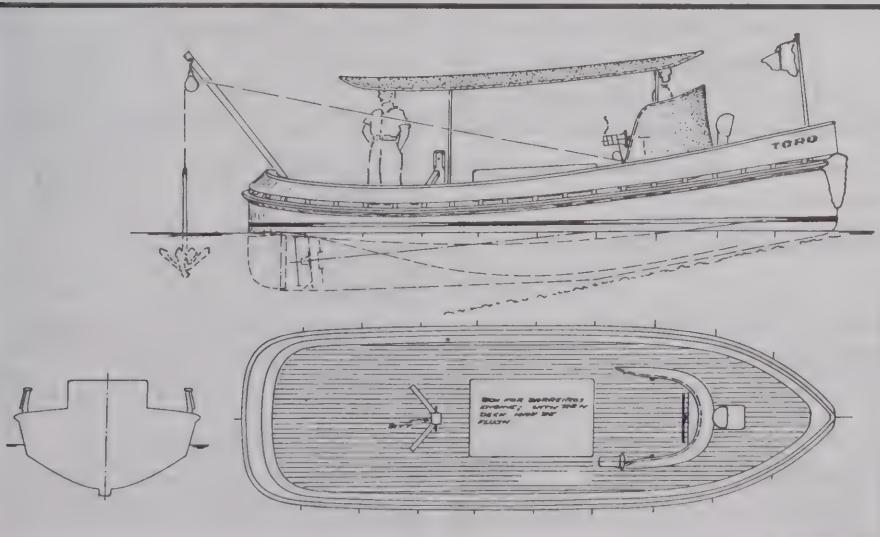
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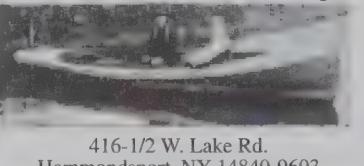


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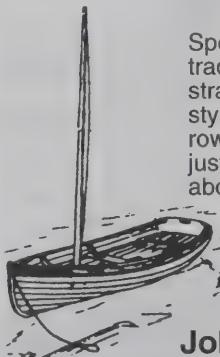
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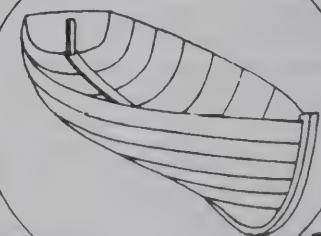
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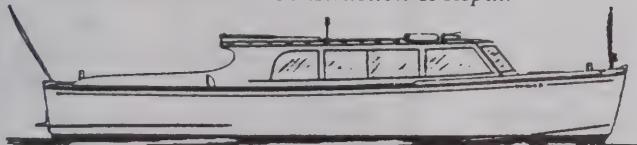
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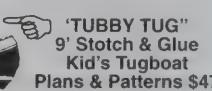
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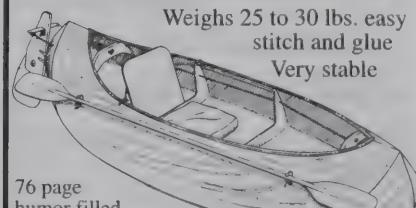
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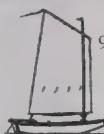
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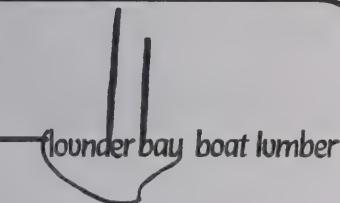
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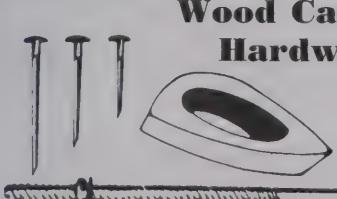
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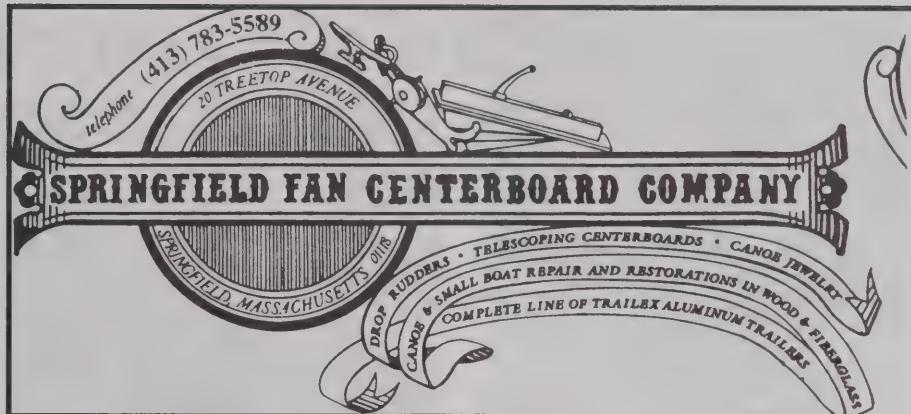
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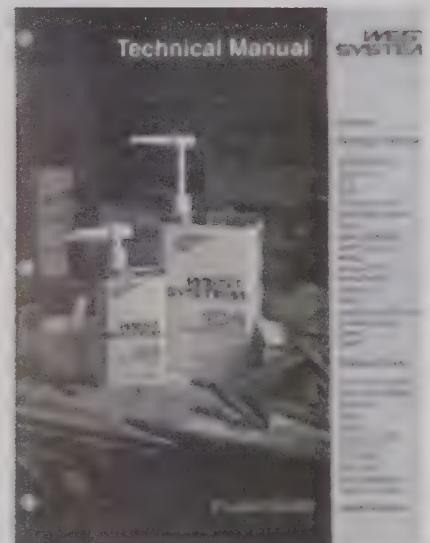
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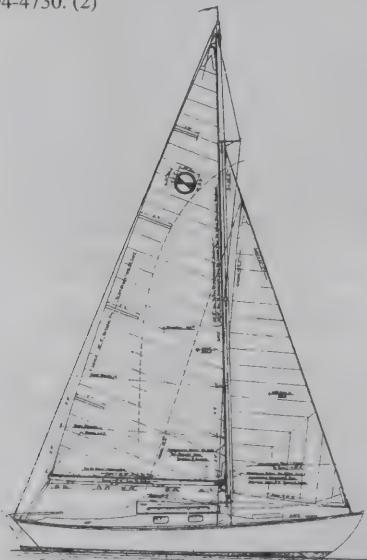
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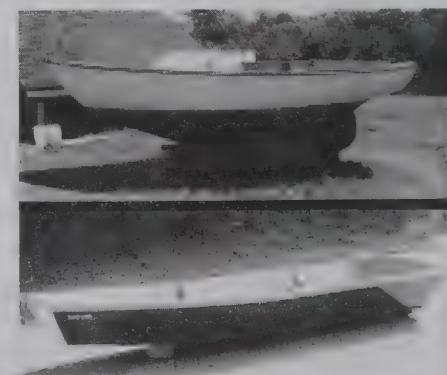


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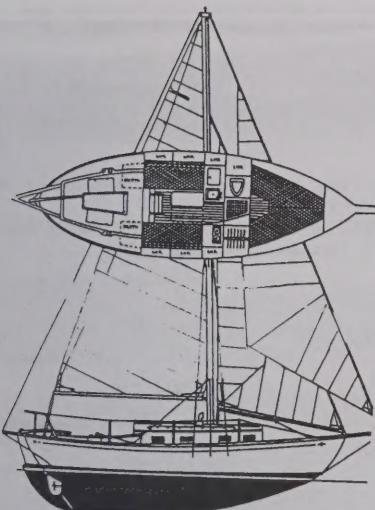
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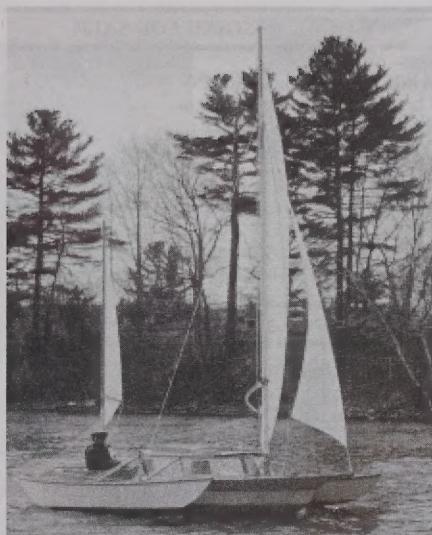
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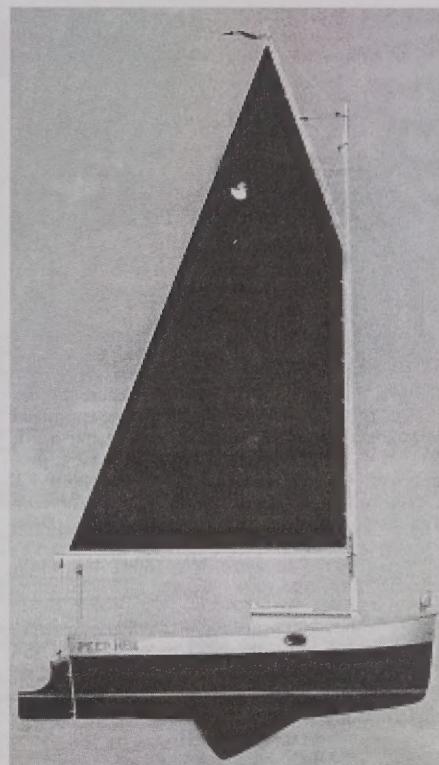
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14' Peep Hen Sailboat, '92 w/5hp Honda w/alternator, gel battery. Trlr, Sunbrella enclosure, new plexiglass dropboard, cruising amenities. Cushions inside & out, tabernacle mast, teak grate. Go anywhere, use as camper, live onboard for vacation. \$10,000 OBO.

MICHAEL TREMBICKI, Somerville, MA, (617) 628-2377. (03)

West Wight Potter P19, 2000 w/Nissan 5hp 4str, trlr w/13" tires, boom vang, cockpit cushions, compass, transom swim platform, mast raising system, bimini, topping lift, AM/FM/cass, vhf, running lights, electric panel, battery & box. \$12,500.

BOB KNIESE, 554 Mott Rd., Duanesburg, NY 12056, (518) 356-2518, <Bobkniese@excite.com> (03)

Feathercraft K Light Folding Kayak, 18 months old; spray skirt, sea sock, deck lines, buoyancy bags. Malone of Maine Eskimo-style paddle, repair kit, yellow deck, weighs 34lbs, just short of 13' loa. \$1,500.

DENNIS CAPRIO, Greenwich, CT, (203) 552-1761 before 9pm, <yachtdc@aol.com> (03)



Adirondack Guideboat, 15'6" long, 55lbs. Cedar hull, cherry decks, gunwales & seat surrounds. Seats & backrest wicker. A breathtaking beauty. Transparent FG covers the hull inside & out to add strength and reduce maintenance. Less than 3 yrs old, in perf cond. Can be rowed or paddled w/single or a dbl paddle. \$5,995 price incl pr of soft maple (the best) hand carved guideboat oars & two prs traditional cast bronze Adirondack oarlocks. Boat will be at Mystic, CT on June 2, & Southaven, MI on June 23. Bring cash & go home w/a family heirloom. I'll be traveling to various places in the northeast & out to Michigan in middle of June so delivery can be arranged. Call or e mail me.

CHUCK RAYNOR, Richmond, VA, (804) 359-5524, <loftysail@earthlink.net> (03)



Beau is For Sale, 29' loa, 26' lod, Laurent Giles designed cutter. Highly modified & customized Westerly Centaur w/full size double berth aft, Yamaha 9.9, new sails, Autohelm 4000, GPS, propane stove. 3 RT Chesapeake-Bahamas, 1 RT Chesapeake-Canada. Biggest small boat around. Trailerable, compl turnkey. Comparable to P.S. Dana or Norsca 27. \$17,000.

ROB KREIT, Lancaster, VA, (804) 462-9840, <beau@rivnet.net> (03)

Speed Boat, '52 Lyman clinker 16', dble cowl, 18hp Evinrude '57, runs great! w/ trailer, \$2,500. **'54 Compac Camper Trlr**, styled after '54 Ford w/ '54 Ford taillights. Roof is 10' boat. Full kitchen, slps 2. \$2,500.

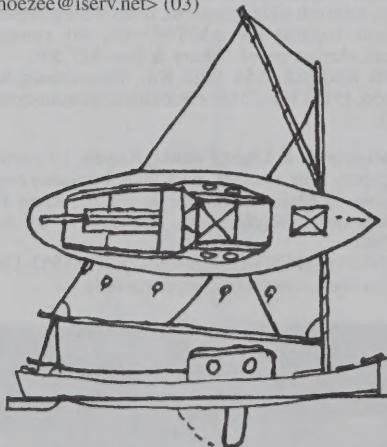
Brian Quinn, Rowley, MA, (978) 758-1950. (03)

Kayak, canvas over wood, red, 12'4" x 22". 30 yrs old in near perf orig cond. Stored inside 27 yrs. Incl Old Town wood/FG dble paddle. Best offer.

PETE SMULLEN, Mystic, CT, (860) 536-9881, <pete_smullen@hotmail.com> (03)

17' '80 Vandestadt Siren Sailboat, 100% & 170% roller furling jibs, swing keel & rudder, cushions, cuddy cabin, newer 4hp Johnson, galv trlr w/large wheels & spare. \$1800.

TIM HOEZEE, Grand Haven, MI, (616) 846-6160, <thoezee@iserv.net> (03)



Bay Hen, 21', '93, by Florida Bay. Shoal draft cruiser. Gaff rigged catboat Dark green hull, white topsides, tanbark sail, bronze ports & cleats, teak trim, tabernacle mast, bimini top & sail cover Evinrude 4hp longshaft OB in well Trlr w/Bearing Buddys. Exc cond, ready to sail or trlr. Specs & pictures on Nimble Boat site, <http://www.nimbleboat.com/bayhen.html>. Asking \$6,000.

RANDY WRIGHT, Merchantville, NJ, (856) 665-2744, <bayhen@hotmail.com> (03)

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PETER BROWN, Alexandria Boat Shop, Alexandria, NH, (603) 744-5163. (3P)

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JACK FAATZ, 114 Campus Dr., Dayton, TN 37321-6438. (2)

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J. PENDINO, Bay Head, NJ, (732) 295-5316. (2)

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ROBERT O'NEILL, Brick, NJ, (732) 477-1107.

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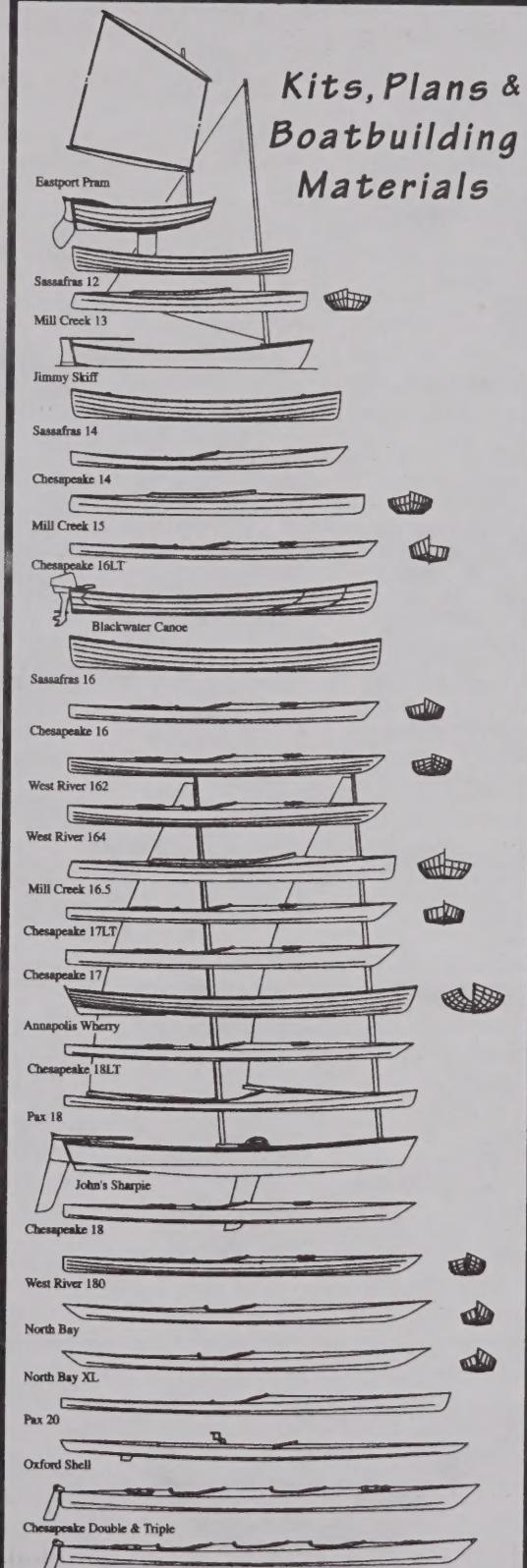
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